



GENERAL PLAN



CITY OF REDONDO BEACH



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**City of Redondo Beach
General Plan**

Prepared For:

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Prepared By:

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Adopted May 26, 1992

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SECTION 1.0

Introduction

1.0 INTRODUCTION

1.1 BACKGROUND AND SCOPE OF THE GENERAL PLAN UPDATE

In early 1988, the City of Redondo Beach, in an effort to account for and reflect the changes in its physical, economic, social, and political character, formally initiated the process of updating and revising its adopted 1964 comprehensive General Plan.

The City's goal in this effort was to undertake and successfully carry out an inclusive planning process that would: 1) define and analyze the conditions and issues currently facing the community; 2) integrate these issues with goals, objectives, and concerns expressed by local citizens, business people, and public administrators; and 3) generate a comprehensive new General Plan that could guide local development, policy, and resource management into the twenty-first century.

To assist them in this endeavor, the City of Redondo Beach, through its Community Development (Planning) Department, retained the services of a team of expert urban planning, transportation, economics, and environmental consultants. The consultant team was led and managed by Envicom Corporation, a privately-owned local urban and regional planning and environmental services consulting firm, and included: the Natelson Company, Incorporated, a local economic and financial firm; Kaku Associates, a local transportation planning and engineering firm; Walker, Celano and Associates, a local acoustical engineering firm, and Sage Associates, a local geologic and environmental services firm. The consultant team was charged with the responsibility of: 1) providing technical assistance and guidance to the City of Redondo Beach in the formulation of the plan; 2) facilitating the community participation/input and review process of the project; and 3) preparing the revised General Plan document and accompanying Environmental Impact Report (EIR).

The scope of this particular update of the City of Redondo Beach General Plan includes a complete revision of five of the seven required elements of the existing General Plan: Land Use; Circulation; Noise; Housing; and Safety. The two remaining required elements: Conservation; and Open Space, have only been reviewed, updated, and sufficiently revised to ensure that they meet the latest established state guidelines for internal consistency of General Plans.

In addition to the seven aforementioned elements required by state law to be contained in a general plan, a total of four "optional" elements or topics have been newly created for this General Plan Update. The four "elective" elements/topics contained in the Updated General Plan include: 1) Child Care/Senior Care; 2) Solid Waste and Recycling; 3) Utilities; and 4) Toxic Wastes and Materials.

1.2 ROLE AND PURPOSE OF THE GENERAL PLAN

The General Plan is a comprehensive planning document which serves as "the officially adopted statement of local policy regarding each individual community's development." The preparation and adoption of a "comprehensive, long-term general plan for the physical development of the county or city" is mandated, by California Government Code, Section 65300, for all cities and counties (including chartered cities) within the State of California.

Formerly a little-used vague and general "wish-list", the "modern" General Plan is now a specific, concrete, and important policy document, providing a basis for rational decision making regarding a city's or county's long-term physical development. The status and function of a city's General Plan (relative to planning and land use matters) has been compared to that of a state constitution by the State of California Attorney General's Office.

State Law (California Government Code Section 65302 [a-g]) stipulates that each General Plan contain a minimum of seven (7) mandatory subject elements. The seven mandatory subject elements include:

- (1) Land Use Element;
- (2) Circulation Element;
- (3) Housing Element;
- (4) Conservation Element;
- (5) Open Space Element;
- (6) Noise Element; and
- (7) Safety Element.

In addition, California Government Code, Section 65303, provides that the General Plan "may include any other elements or address any other subjects which, in the judgment of the legislative body, relate to the physical development of the city or county." These "optional" elements often include: 1) Child Care/Senior Care; 2) Solid Waste and Recycling; 3) Utilities; and 4) Toxic Wastes and Materials.

The State of California, under Government Code, Section 65300.5, now mandates that General Plans be internally "unified" and "consistent" in nature. This concept, in practice, translates to a requirement that none of the policies or components within the General Plan conflict with or contradict each other, either conceptually, textually or diagrammatically.

In addition, the adoption or revision of a General Plan is considered a "project" for the purposes of the California Environmental Quality Act (CEQA). This status triggers the requirement that if the adoption or revision of the General Plan "may cause a significant effect on the environment," the jurisdiction 'must' prepare an environmental impact report (EIR).

The environmental impact report prepared for the updated General Plan met established California Environmental Quality Act (CEQA) Guidelines for the preparation of such reports in defining, quantifying, studying, and proposing mitigation actions for any environmental impacts of the project, prior to the actual adoption of the General Plan.

The updated City of Redondo Beach General Plan will serve to guide those making decisions and participating in the allocation of resources and defining the future shape and character of the City of Redondo Beach. The plan will, as state law stipulates, be the official statement of the City of Redondo Beach regarding the framework of policies, standards, and actions needed to achieve the short and long-term physical, economic, social, and environmental goals of the community.

Although the General Plan itself is composed of individual sections or "elements," each addressing a particular area of planning concern, the plan embodies a comprehensive approach, reflecting the total range of City concerns, and ensuring that the document will be unified, integrated, and consistent in nature.

The updated City of Redondo Beach General Plan will also act to clarify and further articulate the City's intentions with respect to the rights and expectations of the general public, property owners, and prospective investors and business interests. Through the revised General Plan, the City of Redondo Beach will inform these groups of its specific goals, policies, and development standards, thereby effectively and openly communicating what is expected of the private sector to assist the City in meeting the objectives of the General Plan.

1.3 FORMAT OF THE GENERAL PLAN DOCUMENT

In an effort to improve the organizational efficiency of the document and allow for a more effective review and use of the plan, the updated City of Redondo Beach General Plan has been structured as a comprehensive and free-standing report.

In this manner the document internally combines and integrates the relevant background data, goals and objectives, policies, and proposed implementation programs for each of the topic areas. In general, each topic area of the document contains the following chronologically organized sub-sections:

- (a.) Background Data and Analysis;
- (b.) Goals and Objectives;
- (c.) Policies; and
- (d.) Implementation Programs.

The narrative text and associated tables, charts, maps, and illustrations constitute the "introduction" section for each of the General Plan Elements. These portions of the document provide input to the "Existing Setting" section of the relevant subject areas of the General Plan Environmental Impact Report.

In addition, the background data, information, and supporting charts, maps, and illustrations serve as a baseline and resource from which the critical issues facing

the City of Redondo Beach were identified. These constituted the framework for the policies and programs contained in this General Plan.

- (a.) Goals and Objectives: The "goals and objectives" sub-section of the document expresses the primary goal(s) of the topic section, defined as "the ultimate purpose of an effort stated in a way that is general in nature and immeasurable," and the corollary objective(s), defined as a "measurable" goal.
- (b.) Policies: The "policy" sub-section of the document sets forth the policies related to each topic section, defined as "a specific statement guiding action and implying clear commitment." The policies, individually and as a whole, are intended to fulfill the stated goals and objectives of the relevant topic section. One or more policies are defined for every objective and every policy has a corresponding implementation program.
- (c.) Implementation Programs: The implementation programs sub-section of the document indicate the means of effecting the desired results of the goals, objectives, and policies contained within the topic section. They are defined as "actions, procedures, or techniques that carry out the general plan policies through implementing a standard (a specific, often quantified) guideline defining the relationship between two or more variables."

1.4 RELATIONSHIP AMONG GENERAL PLAN ELEMENTS/TOPICS

As a comprehensive strategy for the management of the City's diverse physical, economic, and social resources, there is a high level of interrelationship among the various elements and topics of the General Plan. Due to the nature of the subject matter and the plan much of the information and policies contained within the document is highly interrelated and often overlaps.

In an effort to avoid potential redundancy and confusion, provide a cohesive and consistent approach to the issues and policies, and meet the state-mandated requirements for internal general plan "unity" and "consistency" (California Government Code, Section 65300.5), the contents of the updated City of Redondo Beach General Plan have been organized by topic rather than strictly by each of the respective mandated or elective elements.

1.5 MONITORING AND UPDATE OF THE GENERAL PLAN

The State of California General Plan Guidelines recommends that policies related to short-term implementation and actions be reviewed annually and be revised as necessary, to reflect: 1) the availability of new implementation tools; 2) changes in funding sources; and 3) results of and the effectiveness of the policies. As a part of their responsibilities, the City Planning Commission is required to report on an annual basis to the City Council on the status of the General Plan and the progress made through its implementation.

State law requires that the Housing Element be reviewed and updated at least every five years. The General Plan guidelines also recommend that the entire plan be thoroughly reviewed at least every five years, with revisions being made, as necessary, to reflect evolving conditions and situations in the community. State law permits that required elements of the General Plan be amended a maximum of four times during any calendar year.

1.6 COMMUNITY PARTICIPATION IN THE GENERAL PLAN UPDATE PROCESS

In order to promote greater community awareness and ensure proper public input during the review and approval of the plan and meet state guidelines for citizen participation in formulating California General Plans, the Redondo Beach City Council appointed a thirty-three (33) member General Plan Advisory Committee (GPAC).

This group represented a varied cross section of the business, government, and resident population of the city (a list of the General Plan Advisory Committee members is provided at the front of this document).

This diverse volunteer group of local citizens and civic leaders was asked to convene regular formal public meetings with the consultant team and city planning officials, to discuss and advise them on issues and policies to be addressed in the plan, to assist in formulating and drafting the plan, and to participate actively in the review and eventual adoption of the completed Updated General Plan.

This dedicated volunteer group, with assistance from the consultant team and City of Redondo Beach staff, conducted a series of over fifty (50) public forums during the formulation of the proposed plan, in order to ensure that all aspects of the General Plan Update and its related issues were adequately disclosed to and discussed by the members of the community.

These meetings, generally conducted on alternating Thursday evenings at the City of Redondo Beach Community Resources Center (the former Patterson School), were widely noticed in the local print and television media, and were broadcast (in their entirety) on the local cable television government access channel.

The vast majority of the policies and programs contained in the plan have been endorsed (through formal motions and votes) by the General Plan Advisory Committee. In a number of cases, the policies and programs endorsed by the Committee differed from those proposed by the consultant team.

In addition to the ongoing General Plan Advisory Committee forum of community participation, a range of mechanisms promoting public input into the General Plan Update planning process were provided. These included: 1) a city-wide workshop, held at the commencement of the planning process, in order to elicit suggestions as to the identity and direction of the primary issues and goals/objectives of the

community relative to the General Plan Update; and 2) a series of five (5) separate community workshops (one in each of the five City Council Districts), to elicit suggestions, comments, and discussion relative to the "preferred" land use recommendations and policies proposed by local community members.

This focus on opportunities for the provision of community participation in the General Plan Update planning process was continued and further supplemented throughout the review and approval process of the plan. This "focus" included:

- (1) An additional city-wide public workshop, held to summarize and discuss the various aspects and policies of the proposed plan and answer questions regarding the proposed plan;
- (2) Two final General Plan Advisory Committee sessions, held to summarize and discuss the various aspects and policies of the proposed plan, answer questions regarding the proposed plan, and receive committee and public-at-large testimony on the proposed plan and its potential environmental impacts;
- (3) A workshop/study session, held during a formal meeting of the City Planning Commission, to summarize and discuss the various aspects and policies of the proposed plan and answer questions regarding the proposed plan;
- (4) A workshop/study session, held during a formal meeting of the City Council, to summarize and discuss the various aspects and policies of the proposed plan and answer questions regarding the proposed plan.

These various workshops and study sessions were followed by a series of formal and statutorily-mandated public review and approval hearings, conducted (first) by the City Planning Commission (who suggested modifications to the proposed plan and then recommended it to the City Council), and (second) by the City Council (who recommended further modifications to the proposed plan, and certified the project environmental impact report as adequate and approved/adopted the final version of the Updated General Plan).

This entire process was open to and directed towards eliciting a maximum of testimony and input on the proposed plan and its environmental impact report from all segments of the community (residents, business people, property owners, employees, visitors, etc.).

1.7 PROJECT LOCATION AND SETTING

The City of Redondo Beach is a "Charter City" originally incorporated in April of 1892. The City of Redondo Beach is located in the southwestern Los Angeles Basin area of southern California, within Los Angeles County, approximately 21 miles southwest of the City of Los Angeles Civic Center, at the southern edge of Santa Monica Bay.

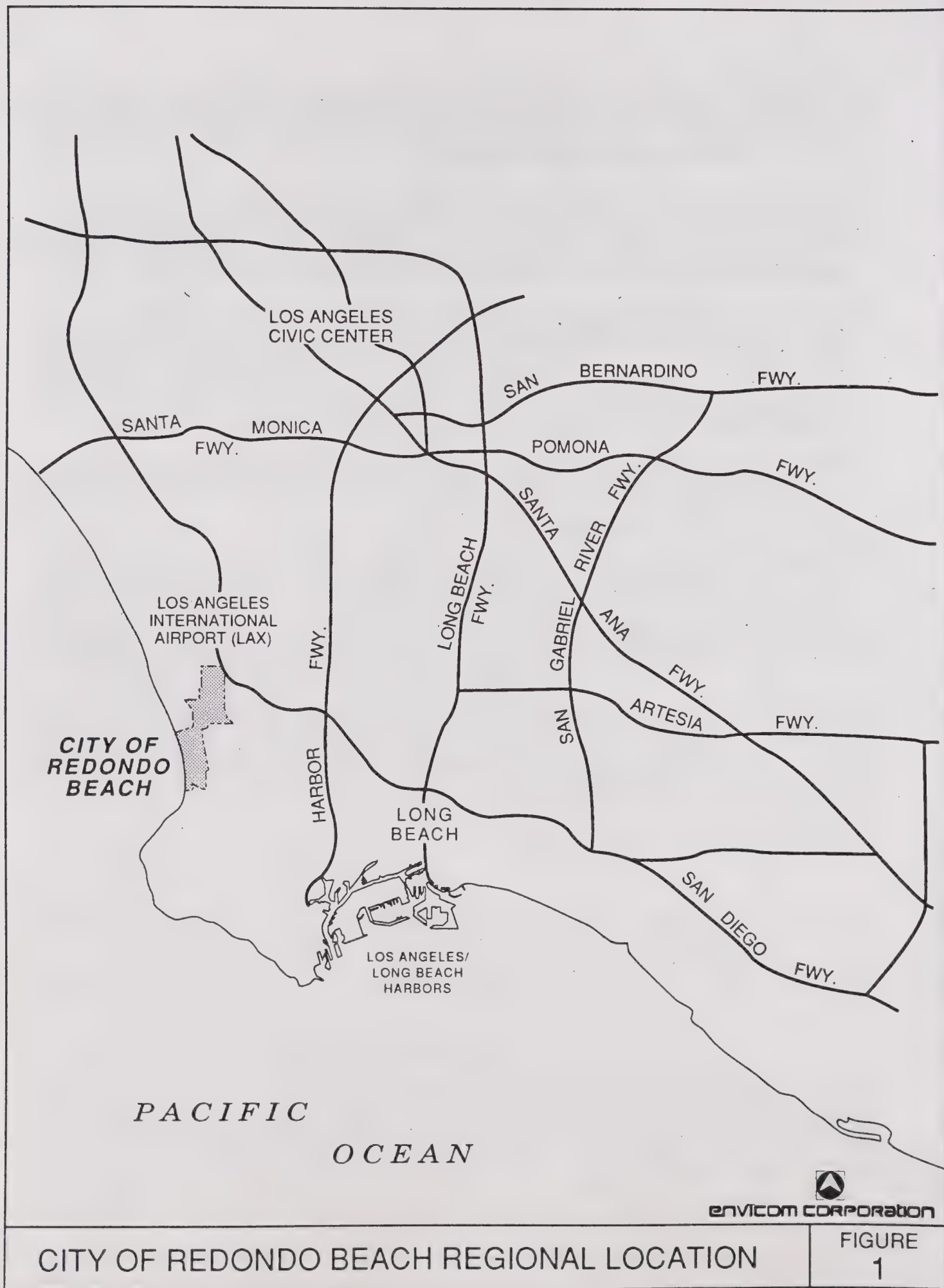
The City is situated approximately seven miles due south of the Los Angeles International Airport (LAX), and is bounded by and shares common borders with five separate municipalities/communities.

The five abutting communities/municipalities to the City of Redondo Beach include: the City of Hawthorne to the north, the Cities of Lawndale and Torrance to the east, the City of Torrance to the south, and the Cities of Manhattan Beach and Hermosa Beach and the Pacific Ocean (Santa Monica Bay) to the west (see **Figure 1**).

The City of Redondo Beach has an irregular, offset, elongated rectangular shape (approximately 5.25 miles long running north-to-south by approximately 1.5 miles wide running east-to-west) configured into two distinctly definable areas (North Redondo and South Redondo) which are bisected by Anita Street/190th Street running east and west through the City (see **Figure 2**).

For the purposes of the General Plan Update, the project planning area includes the entire geographic area City of Redondo Beach, which has a total land area of approximately 3,970 acres (6.2 square miles).

In addition to the General Plan Update, a concurrent and free-standing specific plan planning process and document has been completed, to create and set forth more detailed land use and urban design guidelines/requirements for the Harbor/Civic Center area. The Harbor/Civic Center Specific Plan project planning area includes approximately 355.4 acres of land area (representing approximately nine percent of the total land area of the City as a whole). This Specific Plan project planning area is located at the northern center of South Redondo Beach, roughly bounded by Herondo Street (to the north), Pacific Coast Highway (to the east), Pearl Street (to the south), and the breakwater structure extending out into Santa Monica Bay and the Pacific Ocean to the west (**Figure 3**).



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CITY OF REDONDO BEACH REGIONAL LOCATION

FIGURE
1

Pacific Ocean

CITY OF
HERMOSA BEACH

CITY OF
MANHATTAN BEACH

CITY OF TORRANCE

CITY OF LAWDALE

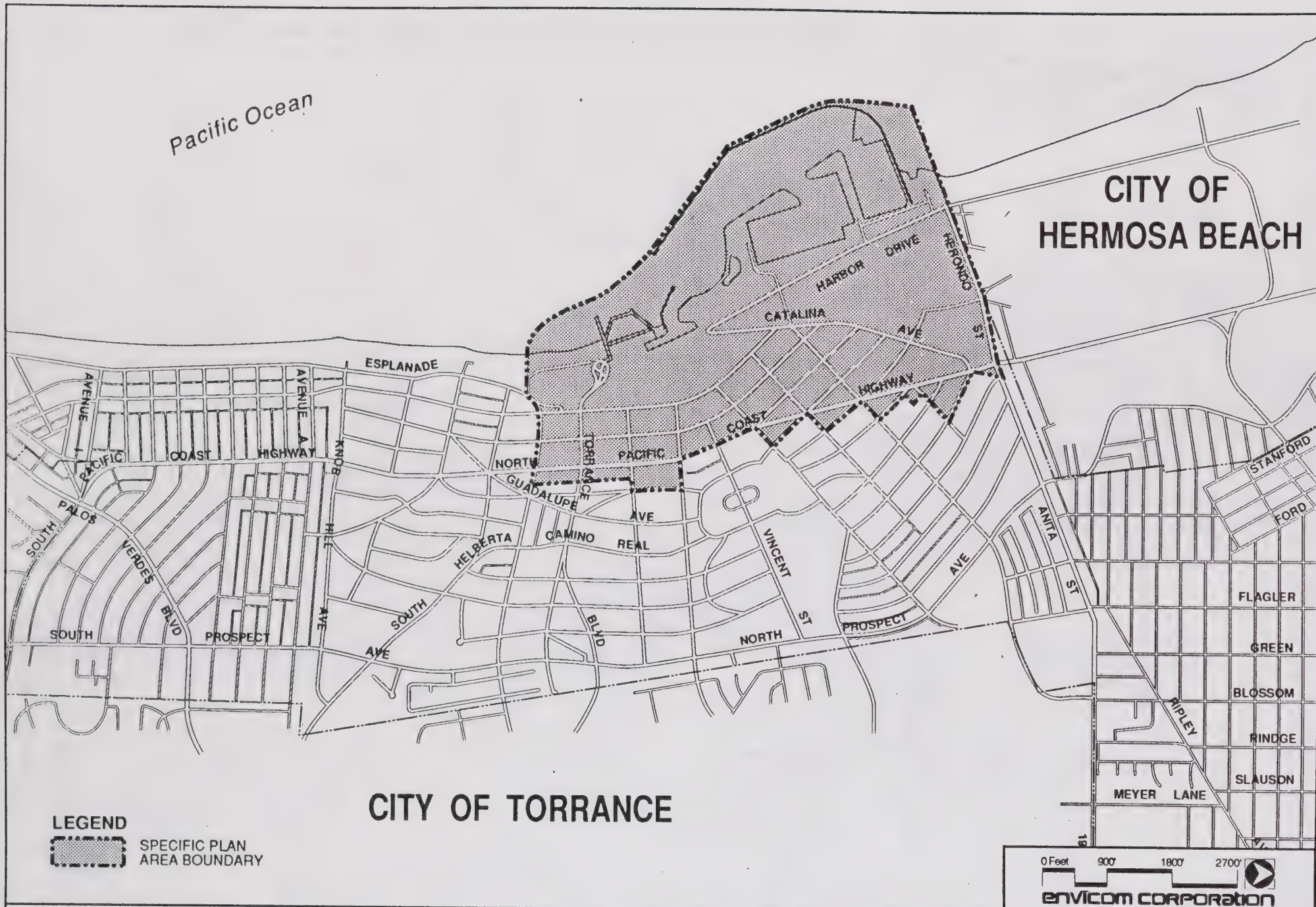
0 Feet 1,500' 3,000' 4,500'



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CITY OF REDONDO BEACH GEOGRAPHIC BOUNDARIES

FIGURE
2



HARBOR / CIVIC CENTER SPECIFIC PLAN AREA

SECTION 2.0

Community Development and Resources

SECTION 2.1

Land Use

2.0 COMMUNITY DEVELOPMENT AND RESOURCES

2.1 LAND USE

2.1.1 Land Use Policy

Overview of Land Use Policy

The Land Use Section of the General Plan establishes goals, objectives, policies, and implementation programs to guide the manner in which new development will occur and existing uses will be conserved in the City of Redondo Beach.

In general, these are structured at two levels: a) policies which pertain to the City at-large and b) policies which pertain only to specific sub-areas or portions of the City. The policies are defined to address the nine following fundamental issues:

- a. What types of land uses should be permitted in the City of Redondo Beach?
- b. How should the land uses be distributed throughout the City?
- d. In each of the City's land use districts, what should be their functional role, what uses should be permitted, and what should be their physical form and character?
- e. What mechanisms can be used to increase the supply of housing units affordable for very low, low, and moderate income households?
- f. How should existing uses which are inconsistent with an area's objectives be maintained or replaced?
- g. How can the City's properties, structures, and public open spaces be designed to provide a high quality image and character for the City?
- h. How can compatibility be ensured between land uses characterized by differing functions and intensities?
- i. What mechanisms can be used to maintain the quality of the City's built environment?
- j. What mechanisms can be used to ensure the maintenance of environmental quality in the City?

In response to these issues, the Land Use policy recognizes that the basic pattern of land uses of the City of Redondo Beach are established and provides for their continuation into the future. With few undeveloped parcels remaining, the policy defines the manner in which existing uses can be maintained and future development will be infilled to be compatible with these.

Fundamentally, the Land Use policy will:

- a. retain existing residential neighborhoods and principal commercial districts, allowing for infill development and recycling for uses which are comparable in function and scale to existing development;
- b. allow for the modest intensification of selected "key" sites which are economically underutilized or contain "marginal" uses, have the potential for achieving significant benefits to the City, and can be designed to be compatible with adjacent uses; and
- c. allow for a change of use on selected sites to improve their economic viability and compatibility with adjacent uses.

The Land Use policy provides for a pattern and form of development which will maintain and enhance distinct residential neighborhoods and commercial and industrial corridors and districts. These will be differentiated by their functional role, uses, density/intensity of development, and design characteristics. Residential neighborhoods throughout the City will be maintained at essentially their existing scale and density. New housing will occur as replacement or infill within the context of densities which have been confirmed by City policy in recent years. Opportunities for increased residential development are provided for at a number of specifically targeted sites to achieve recycling objectives on a special pedestrian-oriented community character (as subsequently discussed) and for seniors and affordable units.

The fundamental pattern of commercial districts will be maintained. As examples, the Galleria at South Bay will be maintained as a regionally-oriented commercial center and the Riviera Village will be maintained as a local-oriented, pedestrian-scaled specialty commercial center.

At a number of sites, the Plan provides for a change from the existing pattern and intensity of uses. Properties containing existing development which is economically obsolete are targeted for redevelopment for another use. The recommended use has been selected to account for its compatibility with adjacent uses and the community character and potential for achieving

economic benefits for the City. The Ruxton Avenue industrial area is an example of an area so designated.

Changes in the pattern of development are also recommended to achieve greater economic viability and character along extended strip corridors containing an undifferentiated and unfocused variety (or "hodge-podge") of existing development. This is a particular problem in Redondo Beach where most of the commercial development is located along the City's arterial corridors (Pacific Coast Highway, Artesia Boulevard, and Aviation Boulevard). Economic market analyses indicates that viable and healthy commercial development needs to be focused in definable and focused clusters, rather than spread continuously along corridors. In response, the Plan provides two policy mechanisms: a) Re-differentiation of the corridors into pedestrian-oriented, mixed-use, high activity, and general automobile oriented segments and b) recycling of selected properties for residential development. To stimulate the latter, residential densities are permitted which are somewhat higher than those allowed in other areas of the City.

A land use concept new to the City of Redondo Beach is the development of parcels for mixed commercial and residential use. This would, normally, involve the development of structures wherein commercial and parking uses are incorporated on the lower floors above which residential units are located.

This form of development was a staple during the formative years of the nation, where merchants lived above their ground floor retail. It has re-emerged as a viable planning and development concept in recent years, as a means to a) reduce vehicular trips and associated air pollution, providing housing opportunities in proximity to jobs, b) establish active, pedestrian-oriented districts which enhance the quality of life and vitality of the city, and c) increase the supply of moderately priced and affordable housing, without increasing the densities of traditional residential neighborhoods.

While the Plan does not mandate the development of mixed-use structures, it does permit them in a number of key activity areas of the City. These locations include the western segment of Artesia Boulevard, Torrance Boulevard and Pacific Coast Highway intersection, and southern segment of Pacific Coast Highway.

The Plan provides for the continuing long-term use of the Redondo Beach Pier and King Harbor areas for coastal-related recreational, marine, and commercial uses. It acknowledges and endorses the recent planning efforts by the City for the Pier's reconstruction and restoration as an amenity which can be used year-round by residents, as well as visitors to the City. Potential aesthetic and land use improvements, including more effective consolidation

of development, are suggested for long-term consideration for the land areas of King Harbor.

Policy provides for the retention of lands for public (parks, schools, and governmental administration and capital), transportation (highways and railroad corridors), and utility (electrical generating plants and transmission corridors) uses and facilities. In recognition that the facility needs and programs of these public uses may change over time, the Plan provides for the re-planning, re-use and redevelopment of these properties and facilities as they may become surplus and available.

2.1.2 Land Use Policy Buildout Estimate

Development in accordance with the Land Use Plan would result in an 18 percent increase in residential units (5,062 units) of which 571 units would be single-family and 4,491 units would be multi-family. Approximately 34 percent of the multi-family units (1,541) would occur in mixed-use development integrating residential with commercial.

All categories of commercial use would experience a 29 percent increase, or approximately 1,818,935 square feet additional. An estimated 23 percent of the total commercial space could be developed as a component of mixed-use developments if all areas designated for this use were to be fully developed for this purpose.

Industrial development would increase by approximately 29 percent. This represents an additional 1,863,184 square feet of development.

These estimates represent the maximum amount of development which could occur if all properties in the City were to be developed for the uses and densities prescribed by the Plan. To a certain extent, these are theoretical maximums, as many parcels which are developed at densities below those permitted are occupied by physically stable and economically viable uses which are unlikely to be recycled.

Table 1 indicates the estimated maximum amount of development which would occur in each general land use category and the changes from the existing level of development.

2.1.3 Land Use Policy Map

The key component of the Land Use policy is the attached Land Use Plan map (**Figure 4**) which depicts the permitted land use of all lands within the City of Redondo Beach. These are designated by categories of residential, commercial, mixed residential and commercial, industrial, and public use which are differentiated by the specific uses and densities/intensities

TABLE 1

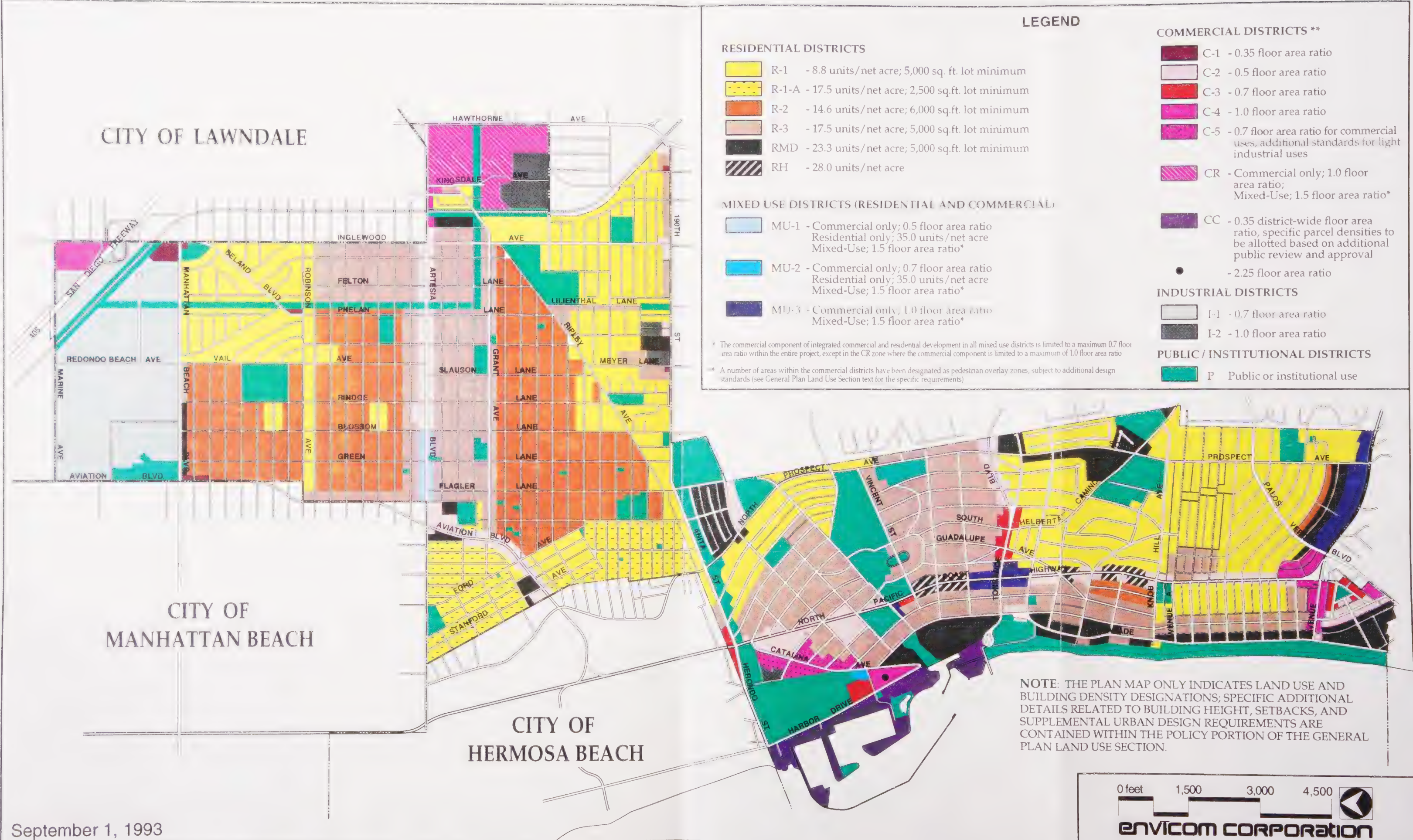
Estimated Maximum Permitted
General Plan Development Buildout

Land Use	Total Existing Development (in units) (1991)	Maximum Additional Permitted Buildout (in units) (1991-2010)	Total City-Wide Development (in units) (2010)	Total Increase in Development (in percent) (1991-2010)
RESIDENTIAL	28,161*	5,062	33,223	18.0
Single-family	9,236	571	9,807	6.2
Multi-family	18,925	4,491	23,416	23.7
- Free Standing	18,925	2,950	21,875	15.6
- Mixed Use	0	1,541	1,541	n/a

Land Use	Total Existing Development (in sq.ft.) (1991)	Maximum Additional Permitted Buildout (in sq.ft.) (1991-2010)	Total City-Wide Development (in sq.ft.) (2010)	Total Increase in Development (in percent) (1991-2010)
COMMERCIAL	6,278,011	1,818,935	8,096,946	29.0
Retail	2,161,677	833,923	2,995,600	38.5
Retail/Office	3,001,023	525,825	3,526,848	17.5
Mixed Use Retail	1,115,311	459,187	1,574,498	41.2
INDUSTRIAL	6,374,062	1,863,184	8,237,246	29.2

* Reduced a total of 59 units from the 28,220 unit gross existing local residential total to account for the number of units that are located on sites expected to convert to conforming commercial land uses over the life span of the updated General Plan.

Source: Envicom Corporation, based on a calculation of the hypothetical mathematical buildout of all land uses and parcels to the maximum building density permitted under the updated General Plan.



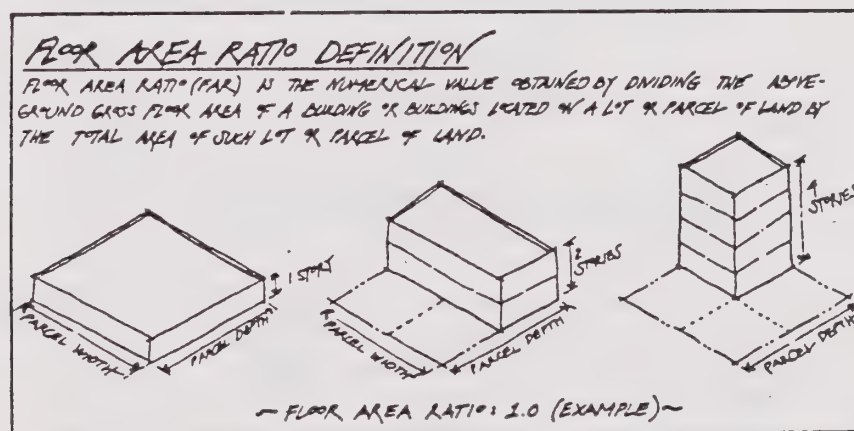
September 1, 1993

CITY OF REDONDO BEACH GENERAL PLAN (LAND USE PLAN)

FIGURE
4

permitted. A summary of the land use classifications and building density allowances contained within the plan is attached (Table 2). They are defined to account for the textual policies and standards contained in the subsequent sub-section of this Element. It should be noted that the Land Use Plan map **must** be used in concert with the policies, as the latter often prescribes development standards and requirements in greater detail than the map designations (e.g., limitations on building height). Land use classifications used in the General Plan may not directly correspond to those of the zoning ordinance.

Residential density limitations are measured by the number of units permitted on a net acre and minimum parcel size. Commercial and industrial density limitations are measured by the ratio determined by dividing the building area by the size of the lot. For example a floor area ratio of 1.0 would result by the development of a 20,000 square foot building on a 20,000 square foot site (i.e., $20,000 \div 20,000 = 1.0$).



Though not previously used by the City of Redondo Beach, the floor area ratio (FAR) is commonly used throughout the state and is a means to satisfy legislative requirements to establish density limits on commercial properties, comparable to those traditionally imposed on residential. FAR limitations are usually related to impacts on traffic and public services and alone do not necessarily imply the resulting bulk and height. For example, as illustrated in the diagram, a constant FAR of 1.0 may result in a one-story building on 100 percent of a site, a two-story building on 50 percent of the site, or a four-story building on 25 percent of the site.

TABLE 2**Land Use Plan Classifications**

Category	Typical Principal Uses (not all-inclusive)	Maximum Density/Intensity
Residential		
R-1	Single-family residential units.	8.8 units per net acre; 5,000 square feet minimum lot area.
R-1-A	Single-family residential units	17.5 units per net acre; 2,500 square feet minimum lot area.
R-2	Single-family residential, duplexes, townhomes, condominiums, apartments.	14.6 units per net acre; 6,000 square feet minimum lot area.
R-3	Single-family residential, duplexes, townhomes, condominiums, apartments.	17.5 units per net acre; 5,000 square feet minimum lot area.
RMD	Single-family residential, duplexes, townhomes, condominiums, apartments.	23.3 units per net acre; 5,000 square feet minimum lot area.
RH	Single-family residential, duplexes, townhomes, condominiums, apartments.	28 units per net acre.
Commercial		
C-1	Retail commercial, eating and drinking establishments, household goods, food sales, drugstores, building materials and supplies, professional offices, personal services, cultural facilities, and similar uses.	Floor area ratio: 0.35.
C-2	Same uses as C-1 and movie theaters, and overnight accommodations; except Riviera Village where no "footprint" exceeding 30,000 square feet is permitted for a single use for food sales, retail goods, or other large volume use.	Floor area ratio: 0.50
C-3	Same uses as C-2.	Floor area ratio: 0.70.
C-4	Same uses as C-2.	Floor area ratio: 1.0.

TABLE 2 (Cont.)

Category	Typical Principal Uses (not all-inclusive)	Maximum Density/Intensity
Commercial		
C-5	a. Retail commercial, personal and business services, professional offices, household supply and furnishings, eating and drinking establishments, drug stores, entertainment, automobile related sales, car wash, and similar uses.	Floor area ratio: 0.70.
	b. Automobile and marine related repair (west side of Catalina Avenue).	Floor area ratio: 0.70
	c. Light industrial and wholesale uses (west side of Catalina Avenue).	Floor area ratio: 1.0.
	d. Storage and self-storage (west side of Catalina Avenue).	Floor area ratio: 1.5.
	e. Boat and recreational vehicle outdoor storage (west side of Catalina Avenue).	N/A.
CR	a. Regional-serving commercial and ancillary uses; department stores, promotional/discount retail, eating and drinking establishments, entertainment, movie theaters, financial institutions, and professional offices.	Floor area ratio: 1.0; provided that impacts are mitigated, architectural and site design amenities, economic benefits to the City, and public review and input.
	b. Residential units on the second floor and higher integrated with commercial; provided that impacts are mitigated.	Floor area ratio: 1.5; provided that all density exceeding 1.0 is developed for residential units to a maximum density of 35 units per net acre.
CC	Coastal- and recreation-oriented commercial retail and service uses.	As established by the City in the Redondo Beach Pier Master Plan and a cumulative FAR of 0.35 in the Harbor.

TABLE 2 (Cont.)

Category	Typical Principal Uses (not all-inclusive)	Maximum Density/Intensity
Mixed-Use		
MU-1	a. All uses permitted in C-2, except large-scale single use food sales and retail facilities "footprints" exceeding 30,000 square feet.	Floor area ratio 0.5.
	b. Residential units on the second floor and higher integrated with commercial; provided that impacts are mitigated.	Floor area ratio: 1.5; provided that all density exceeding 0.7 is developed for residential units to a maximum density of 35 units per net acre.
	c. Single-family residential, duplexes, townhomes, condominiums, apartments.	35 units per net acre; minimum development site is the entire block face.
MU-2	a. All uses permitted in C-2, except large-scale single use food sales and retail facilities "footprints" exceeding 30,000 square feet.	Floor area ratio: 0.7.
	b. Residential units.	35 units per net acre.
	c. Residential units on the second floor and higher integrated with commercial; provided that impacts are mitigated.	Floor area ratio: 1.5; provided that all density exceeding 0.7 is developed for residential units to a maximum density of 35 units per net acre.
MU-3	a. All uses permitted in C-2, except large-scale single use food sales and retail facilities "footprints" exceeding 30,000 square feet.	Floor area ratio: 1.0.
	b. Residential units on the second floor and higher; provided that impacts are mitigated.	Floor area ratio: 1.5; provided that all density exceeding 0.7 is developed for residential units and densities exceeding 35 units per net acre are developed as affordable units.

TABLE 2 (Cont.)

Category	Typical Principal Uses (not all-inclusive)	Maximum Density/Intensity
Industrial		
I-1	Light industrial, research and development, "office park" facilities, manufacture of spacecraft and associated aerospace systems, supporting commercial uses (e.g., restaurants, banks, copiers, and similar uses), educational and governmental facilities, and day care centers.	Floor area ratio: 0.7.
I-2	Uses permitted in I1.	Floor area ratio: 1.0.
Public		
P	Governmental administrative and capital facilities, parks, schools, libraries, hospitals and associated medical offices, public cultural facilities, public open space, utility easements, and other public uses.	N/A
Overlays		
-PD	Offices shall be located at the rear or above the first floor of structures whose ground floor is occupied by pedestrian-oriented uses (e.g., retail sales and restaurants).	N/A

2.1.4 Goals, Objectives, and Policies

The following prescribes the goals, objectives, and policies for land use in the City of Redondo Beach. Programs which implement the policies are defined in the subsequent subsection of this Element. At the conclusion of each policy is listed a capital "I" and number in parentheses which refers to the pertinent implementing program.

Issue **WHAT TYPES OF LAND USE SHOULD BE PERMITTED IN THE CITY OF REDONDO BEACH?**

GENERAL

Goal *It shall be the goal of the City of Redondo Beach to:*

1A Provide for the types and mix of land uses necessary to serve the needs of existing and future residents.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.1 Ensure that lands are designated to accommodate the housing, commercial, employment, educational, recreational, cultural, social, and aesthetic needs of the residents and that they are developed to maintain and enhance the quality and character of the City.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.1.1 Establish land use designations to accommodate housing units of a variety of types and prices; retail, office, personal service, entertainment, and food service commercial uses; employee-generating industrial; recreational; governmental services; utility and infrastructure; and other uses required to support the population (11.1).

1.1.2 Establish density limits and standards which ensure that new development maintains and enhances the overall quality of life, scale, and physical characteristics which are the City's assets (11.1).

1.1.3 Establish standards which maintain and enhance the economic viability of development and fiscal well-being of the City (11.1).

RESIDENT-SERVING LAND USES

Objective It shall be the objective of the City of Redondo Beach to:

- 1.2 Provide for the continuation of existing and new development of housing to meet the diverse economic and physical needs of the City's residents.

Policies It shall be the policy of the City of Redondo Beach to:

- 1.2.1 Preserve existing single-family residential neighborhoods, in areas classified as Residential Single-Family ("R-1" and "R-1-A") on the Land Use Plan map (II.1).
- 1.2.2 Continue existing and allow for the development of new multi-family residential units (duplexes, townhomes, condominiums, and apartments) and single-family units, in areas classified as Multi-Family Residential ("R-2," "R-3," "RMD," and "RH") on the Land Use Plan map (II.1).
- 1.2.3 Allow for the development of housing types intended to meet the special needs of senior citizens, the physically challenged, and low and moderate income households in areas classified as Multi-Family Residential ("R-2," "R-3," "RMD," and "RH"), Mixed Use ("MU-1," "MU-2," and "MU-3") and Commercial Regional ("CR") on the Land Use Plan map provided that they are designed to be compatible with adjacent residential structures and other areas designated for other categories of use provided that no substantial adverse impacts will occur (II.1).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.3 Provide for the continuation of existing and new development or recycling of commercial uses to meet the needs of the City's residents.

Policies It shall be the policy of the City of Redondo Beach to:

- 1.3.1 Allow for the development of community-oriented retail sales (food, clothing, building materials, etc.), services (finance, repair services, personal, etc.), professional offices, and other commercial uses which provide for the needs of existing and future residents as appropriate in areas classified as Commercial ("C-1," "C-2," "C-3," "C-4", and "C-5") on the Land Use Plan map (II.1).
- 1.3.2 Differentiate the specific mix and intensities of uses permitted in each zone based on the intended role and function of the district/area in which they are located (II.1).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.4 Provide for the continuation of existing and development of new land uses which contribute job opportunities for existing and future residents of the City.

Policies It shall be the policy of the City of Redondo Beach to:

- 1.4.1 Allow for the development of expanded research and development, light manufacturing, aerospace, and similar uses which provide employment for City of Redondo Beach residents in areas classified as Industrial ("I-1" and "I-2") on the Land Use Plan map (I1.1).
- 1.4.2 Allow for the development of corporate and professional offices and retail commercial uses in areas designated as Commercial ("C-1," "C-2," "C-3," "C-4," "C-5," and "CR") on the Land Use Plan map (I1.1).
- 1.4.3 Allow for the development of commercial recreation uses in the King Harbor and Pier Areas (I1.1).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.5 Provide for the continuation of existing and development of new public service uses and facilities which meet the needs of the City's residents.

Policies It shall be the policy of the City of Redondo Beach to:

- 1.5.1 Allow for the continuation of existing public recreational, cultural (libraries, museums, etc.), educational, institutional (governmental, police, fire, etc.), and health uses at their present location [areas classified as Public ("P") on the Land Use Plan map] and development of new uses where they complement and are compatible with adjacent land uses (I1.1).
- 1.5.2 Allow for the development of private recreational, cultural, educational, institutional, and health uses in areas classified as Commercial ("C-1," "C-2," "C-3," "C-4", and "C-5") and religious uses in areas classified as Residential, Commercial, or Mixed Use on the Land Use Plan map, provided that they are compatible with adjacent uses (I1.1).
- 1.5.3 Allow for the development of religious uses in the portion of the industrial zone east of Freeman Boulevard and adjacent to Manhattan Beach Boulevard provided that they are compatible in function, scale, and character with adjacent uses (I1.1).

REGIONAL-SERVING LAND USES

Goal *It shall be the goal of the City of Redondo Beach to:*

1B Provide land uses which attract a regional customer base and contribute significant revenue to the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.6 Provide lands for and encourage the development of retail, specialty, entertainment, and similar uses which attract customers from adjacent cities and the region, as well as serving the City's residents.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.6.1 Allow for the continuation and expansion of regional-serving commercial, specialty, entertainment, and related uses at the Galleria at South Bay and adjacent properties classified as Commercial Regional ("CR") on the Land Use Plan map (I1.1).

COASTAL-RELATED LAND USES

Goal *It shall be the goal of the City of Redondo Beach to:*

1C Provide land uses which reflect and capitalize on the City's location along the Southern California coastline.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.7 Accommodate coastal-related recreation and commercial uses which serve the year-long need of the residents and visitors and are attractive and compatible with adjacent residential neighborhoods and commercial districts.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.7.1 Allow for the development of coastal-related commercial retail and service uses (fishing supplies, marine supplies, recreational equipment rentals and sales, recreational clothing, entertainment, and similar) within King Harbor, the Redondo Beach Pier, and lands classified as Coastal Commercial "CC" on the Land Use Plan map (I1.1, I1.3).

1.7.2 Allow for the continued operation and enhancement of King Harbor (I 1.1, I1.3, I1.13).

- 1.7.3 Allow for the operation and maintenance of the Pier as a recreational asset for the City and region; ensuring a high level quality of use and design, adequate safety, and compatibility with adjacent residential neighborhoods and commercial districts (I1.1, I1.3, I1.14).
- 1.7.4 Allow for the continued use of the City's public beaches for coastal recreational uses (I1.1, I1.3, I1.15).

PUBLIC INFRASTRUCTURE

Goal *It shall be the goal of the City of Redondo Beach to:*

1D Provide for the development of public infrastructure to support existing and future residents, businesses, recreation, and other uses.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.8 Commit lands for the continued operation of public infrastructure which supports residents, businesses, and visitors and protects them from environmental hazards.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.8.1 Allocate lands for the continuation and expansion of public streets and highways in accordance with the Master Plan of Streets and Highways, as defined in the Transportation and Circulation section of the General Plan (I1.1, I1.2).

1.8.2 Allow for the continuation of utility corridors, easements, and facilities (sewer, water, energy, storm drainage, telecommunications, and other) to provide for existing and future land use development in areas classified as Public ("P") on the Land Use Plan map (I1.1).

1.8.3 Provide lands for the expansion of public infrastructure as necessary to maintain the level of service for the City's residents and accommodate future development (I1.1).

1.8.4 Develop plans and programs for the reuse of infrastructure and utility properties and easements should they no longer be required for their intended operations (I1.1).

CONTROL OF HIGH-IMPACT USES

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1E Ensure that the types of land uses developed in the City complement and do not adversely affect the quality of life and health of the City's residents, businesses, and visitors.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.9 Control the development of land uses which may adversely impact the character of the City and quality of life of its residents.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.9.1 Control the development of industrial and other uses which use, store, produce, or transport toxics, generate unacceptable levels of noise, air emissions, or contribute other pollutants; requiring adequate mitigation measures confirmed by environmental review (I1.1, I1.8).
- 1.9.2 Control the location and number of adult bookstores and businesses, game arcades, and similar "high-impact" uses, based on proximity to residences, schools, religious facilities, and parks in accordance with legislative and legal requirements (I1.1, I1.8).
- 1.9.3 Require Police Department review of uses which may be characterized historically by high levels of nuisance (noise, nighttime patronage, and/or rates of criminal activity); providing for conditions of control of use to prevent adverse impacts on adjacent residences, schools, religious facilities, and similar "sensitive" uses (I1.1, I1.8, I1.9).

Issue HOW SHOULD LAND USES BE DISTRIBUTED THROUGHOUT THE CITY?

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1F Maintain the fundamental pattern of existing land uses, preserving residential neighborhoods and commercial and industrial districts, while providing opportunities for intensification or reuse of selected sub-areas which improve the definition of centers of community activity and identity.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.10 Provide for new land use development and adaptive reuse which is reflective of and complements the overall pattern and scale of existing

development, infills vacant and underutilized parcels, and offers the opportunity for the evolution and intensification and/or reuse of selected sub-areas as distinctly identifiable activity centers of the City.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.10.1 Accommodate existing land uses and new development in accordance with the Land Use Plan map of the General Plan (11.1).
- 1.10.2 Require that development in each land use classification adheres to applicable requirements and standards. Allow variances to be granted from specific development criteria of the General Plan because of unusual topography, size, shape or other unique circumstances applicable to the property, provided that the variance will not be inconsistent with other goals, objectives and policies of the General Plan(11.1, 11.7).
- 1.10.3 Permit the adjustment of land use classification boundaries to coincide with legal parcel boundaries, provided that land use compatibility is maintained, the integrity of each land use district is maintained, and adverse impacts (traffic, noise, etc.) of the boundary adjustment do not result or can be adequately mitigated (11.1, 11.2).

Issue **WHAT SHOULD BE THE FUNCTIONAL ROLE, PERMITTED USES, AND PHYSICAL FORM AND CHARACTER OF THE CITY'S LAND USE DISTRICTS?**

RESIDENTIAL DEVELOPMENT

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1G Maintain existing residential neighborhoods and provide opportunities for the development of additional housing to provide for the diverse needs of the population.

SINGLE-FAMILY RESIDENTIAL NEIGHBORHOODS

Historically, Redondo Beach has been mostly a low density, single-family residential community. While some areas have transitioned to multiple-family development, the areas that have remained "R-1" are now firmly established as permanent single-family neighborhoods. It is the intent of the General Plan to preserve these traditional single-family areas, and to institute protections regarding the character and quality of new development.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.11 Provide for the retention and maintenance of residential neighborhoods which are primarily developed with single-family houses and ensure that new development is compatible with the character of evolving neighborhoods.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses, Density, and Height

- 1.11.1 Accommodate the development of single-family residential units at a maximum density of 8.8 units per net acre on parcels of a minimum of 5,000 square feet and height of 30 feet (two stories) in areas designated as "R-1." Accommodate the development of single-family units on existing legal parcels of less than 5,000 square feet.(11.1, 11.2).
- 1.11.2 Accommodate the development of single-family residential units at a maximum density of 17.5 units per net acre on parcels of a minimum of 2,500 square feet and height of 30 feet (two stories) in areas designated as "R-1-A." Accommodate the development of single-family units on existing legal parcels of less than 2,500 square feet.(11.1, 11.2).

Design and Development

- 1.11.3 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (11.1, 11.10, 11.18).
- 1.11.4 Require that new residential development be compatible with evolving neighborhoods, utilizing design considerations such as:
- a. use of complementary building materials, colors, and forms, while allowing flexibility for distinguished design solutions; and
 - b. limitation of building volume and bulk so that it does not adversely affect the character of evolving neighborhoods (11.1, 11.10, 11.18).
- 1.11.5 Require that single-family residential units and sites be designed to convey a high level of quality and character, utilizing design considerations such as:

- a. modulation and articulation of building elevations, facades, and masses (avoiding undifferentiated "box-like" structures);
 - b. incorporation of a well-defined roofline;
 - c. inclusion of recessed entries and/or porches;
 - d. use of extensive site landscape to complement the architectural design of the structure;
 - e. minimization of amount and width of the paving of front yards for driveway and garage access; and
 - f. location and design of garages so that they do not dominate the street frontage, except in areas designated as "R-1-A" (11.1, 11.10, 11.18).
- 1.11.6 Require, in areas where alleys currently exist and driveways from the street frontage have not been developed on a significant number of parcels, that parking access be from these unless infeasible (11.1).
- 1.11.7 Allow the incorporation of a third parking space, developed in tandem, in an enclosed garage for larger residential units (11.1).

LOW DENSITY MULTI-FAMILY RESIDENTIAL NEIGHBORHOODS

These areas, designated "R-2" and "R-3," are intended to accommodate multiple-unit housing developments, while still maintaining a lower density character. The maximum "R-2" density of 14.6 units per acre allows two units on a 6,000 square foot lot, and the maximum "R-3" density of 17.5 units per acre allows two units on a 5,000 square foot lot.

Most of these areas were originally developed with single-family homes and have been allowed to transition to two or three condominium units on a lot to encourage revitalization and to meet a diversity of housing needs. Even though multi-family development is permitted, it is desired to maintain a lower density, single-family type of character through architectural design and limits on density.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.12 Provide for the retention and maintenance of the existing scale and character of multi-family residential neighborhoods which are characterized by a predominance of one- and two-story attached units, duplexes, and condominiums.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses, Density, and Height

- 1.12.1 Accommodate the development of multi-family residential units at a maximum density of 14.6 units per net acre on parcels of a minimum of 6,000 square feet and height of 30 feet (two stories) in areas designated as "R-2." Accommodate the development of single-family units on existing legal parcels of less than 6,000 square feet (I1.1, I1.2).
- 1.12.2 Accommodate the development of multi-family residential units at a maximum density of 17.5 units per net acre on parcels of a minimum of 5,000 square feet and height of 30 feet (two stories) in areas designated as "R-3." Accommodate the development of single-family units on existing legal parcels of less than 5,000 square feet (I1.1, I1.2).
- 1.12.3 Prohibit the consolidation of parcels to create large scale building masses and volumes in areas designated as "R-2" and "R-3," except that consolidation of parcels shall be allowed in areas designated "R-3" west of Pacific Coast Highway provided that the front-facing street frontage of the consolidated lots does not exceed 100 linear feet (I1.1, I1.2).

Design and Development

- 1.12.4 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).
- 1.12.5 Require that residential projects be designed to convey the visual character of single-family residential neighborhoods and a high quality character, utilizing design considerations such as:
 - a. maintenance of a front yard setback comparable to single-family residential neighborhoods;
 - b. location of the elevation of the first occupiable floor at or in proximity to the predominant grade elevation, precluding the visibility of subterranean parking along the street elevation;
 - c. use of building materials, colors, and forms which complement the neighborhood, while allowing flexibility for distinguished design solutions;

- d. modulation and articulation of all building elevations, conveying the visual character of individual units rather than a singular building mass and volume;
- e. use of a well-defined roofline;
- f. inclusion of separate and well-defined entries on the exterior building facade for each residential unit which are designed to convey the visual character of individual identity;
- g. inclusion of recessed entries and/or porches; and
- h. siting and design of parking areas and facilities to be integrated with and not dominate the architectural character of the structure;
- i. use of extensive site landscape; and
- j. minimization of amount and width of the paving of front yards for driveway and garage access (11.1, 11.7, 11.18).

MEDIUM DENSITY MULTI-FAMILY RESIDENTIAL NEIGHBORHOODS

These areas, designated "RMD" are intended to provide more affordable multiple-family housing opportunities, including both apartments and condominiums. The maximum density of 23.3 units per acre allows up to four units on a 7,500 square foot lot.

One of the major concerns expressed in the development of the General Plan was controlling residential density levels. Because of this, the "RMD" designation was only applied to areas mostly built out at an overall density exceeding 23.3 units per acre.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.13 Provide for the retention, maintenance, and development of multi-family residential units which convey a distinctive residential neighborhood quality.

Policies It shall be the policy of the City of Redondo Beach to:

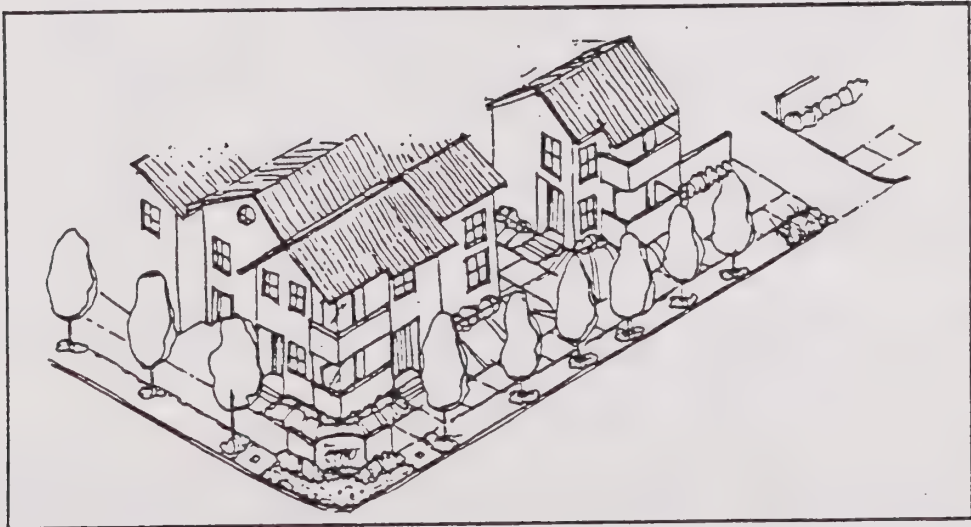
Permitted Uses, Density, and Height

- 1.13.1 Accommodate the development of multi-family residential units at a maximum density of 23.3 units per net acre on parcels of a minimum of 5,000 square feet and a maximum height of 30 feet (two stories) in areas

designated as "RMD." Accommodate the development of single-family units on existing legal parcels of less than 5,000 square feet (*11.1, 11.2*).

Design and Development

- 1.13.2 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (*11.1, 11.10, 11.18*).
- 1.13.3 Require that multi-family residential projects be designed to convey a high quality and distinctive neighborhood character, in accordance with Policy 1.12.5 and the following modifications:
- a. maintenance of a landscaped front yard setback in accordance with sub-section "a," though not necessarily to the depth or standards typical of a single-family neighborhood;
 - b. inclusion of recessed entries and/or porches for each unit (in accordance with sub-section "g") are encouraged, but not mandated; and
 - c. inclusion of separate and well-defined entries to convey the visual character of individual identity for each residential unit, which may be developed from interior courtyards and common areas, rather than exterior facades (*11.1, 11.10, 11.18*).



- 1.13.4 Require the provision of on-site open space amenities and design of these to be accessible and of sufficient size to be usable by tenants (*11.1*).

HIGH DENSITY MULTI-FAMILY RESIDENTIAL NEIGHBORHOODS

These areas, designated "RH," allow higher density multiple-family housing at a maximum density of 28 units per acre. The areas designated "RH" are located along certain portions of Pacific Coast Highway. These areas were previously zoned commercial, but were determined to have potential for higher density residential development. Reference should be made to Pacific Coast Highway, Sub-Areas 5 and 6 for more details regarding the reasons for designating these areas "RH."

Objective It shall be the objective of the City of Redondo Beach to:

- 1.14 Provide for the retention, maintenance, and development of high density multi-family residential units to provide for the housing needs of existing and future populations, including the children of existing residents and retired heads of household, and which convey a distinctive residential neighborhood quality.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses, Density, and Height

- 1.14.1 Accommodate the development of multi-family townhomes, condominiums, and apartments at a maximum density of 28 units per net acre and a maximum height of 35 feet and (three stories) or 30 feet and two stories (as specified) in areas designated as "RH." (I1.1, I1.2).

Design and Development

- 1.14.2 Require that projects be designed and developed to achieve a high level of quality and distinctive character, and compatibility with existing uses and development in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).
- 1.14.3 Require that multi-family residential projects be designed to convey a high quality and distinctive neighborhood character, in accordance with Policy 1.13.3 (I1.1, I1.10, I1.18).
- 1.14.4 Require the provision of on-site open space amenities and design of these to be accessible and of sufficient size to be usable by tenants (I1.1).

COMMERCIAL AND INTEGRATED COMMERCIAL AND RESIDENTIAL MIXED-USE DEVELOPMENT

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1H Continue and enhance existing commercial districts which contribute revenue to the City and are compatible with adjacent residential neighborhoods.

ARTESIA BOULEVARD

General Corridor

Artesia Boulevard is the main commercial corridor of North Redondo. It originally developed as a typical "strip" commercial street with mostly one-story buildings with adjacent surface parking. Many of the older buildings have parking located in the rear, while more recent developments have parking located in the front and/or side.

Typical for a commercial street of its era, Artesia Boulevard still tends to be a collection of small individual developments, many of which lack physical coordination with adjoining properties. Because of this, a focus has been placed on revitalization through coordinated improvements and development. The City is undertaking an ambitious improvement program to create an attractive, coordinated appearance along the entire length of the corridor.

In addition to establishing policies to assure quality design, the principal strategy for Artesia Boulevard is to divide the corridor into four sub-areas. This has been done in an attempt to change Artesia Boulevard from a long, largely undifferentiated corridor into distinct sub-areas, each with its own functional and design emphasis. Each sub-area was developed to be compatible with the prevailing character of existing development and to enhance trends that were already occurring.

The implementation of these sub-areas should allow future development in each area to be more coordinated and compatible, while creating a discernible pattern of diversity as one travels the length of the corridor.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.15 Provide for the evolutionary development of Artesia Boulevard into four distinct sub-areas which reflect and reinforce the existing primary activity areas and adjacent land uses, are oriented and accessible to the needs of nearby residents, and differentiated by use, density/intensity, and physical form and character.

Artesia Boulevard



C-2 (Sub-Area 4)



C-2-PD (Sub-Area 2)



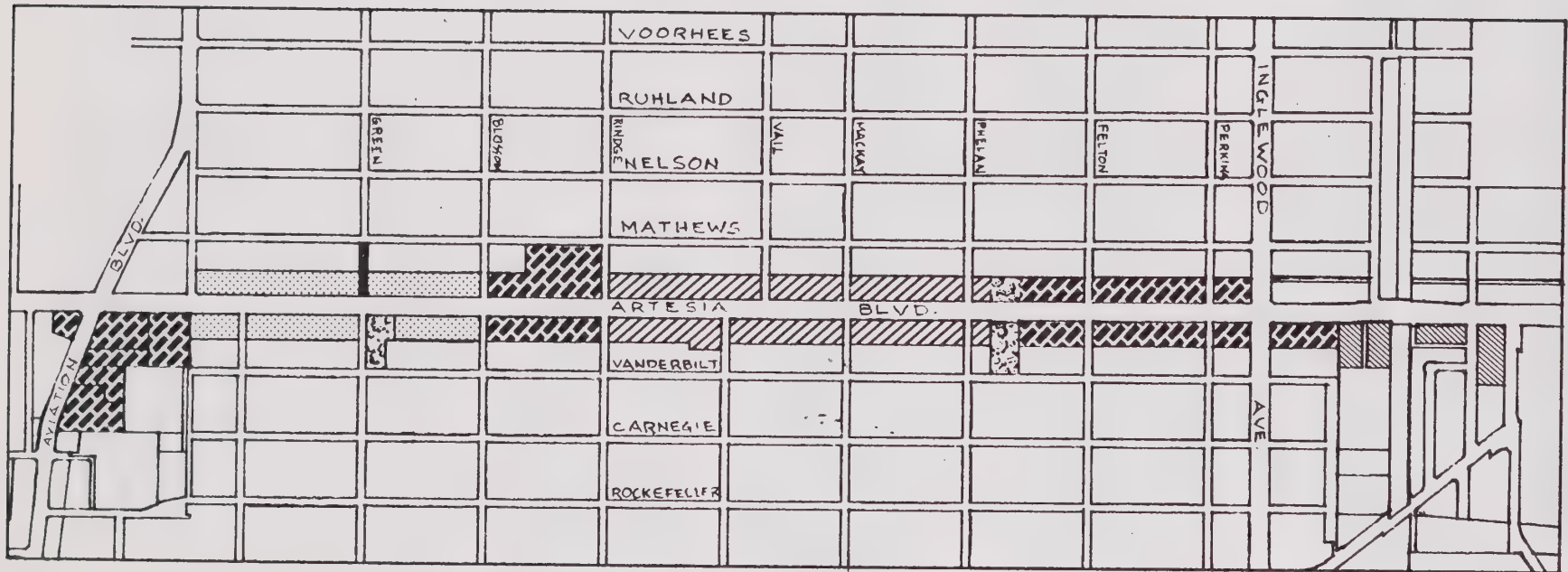
C-4 (Sub-Area 1)



MU-1 (Sub-Area 3)



P



Policies It shall be the policy of the City of Redondo Beach to:

Function and Permitted Uses

- 1.15.1 Accommodate land uses and provide for a physical form and scale of development which differentiates Artesia Boulevard into the four following sub-areas:
- a. East of Ruxton Lane: developed as a higher intensity transitional area to the Galleria at South Bay (Sub-Area 1);
 - b. Phelan Lane to Rindge Lane: developed as a pedestrian-oriented community-serving commercial "village" (Sub-Area 2);
 - c. Blossom Lane to west of Flagler Lane: developed as a mixed-use node, integrating residential with community-serving commercial uses (Sub-Area 3); and
 - d. Remaining areas: mix of highway- and community-oriented commercial uses (Sub-Area 4) (II.1).
- 1.15.2 Publicly initiate and allow for the private sector development of municipal or shared parking lots, which incorporate bicycle storage facilities, along the street frontages to provide for joint use of adjacent commercial properties and allow for the incorporation of commercial uses into the structure along the street frontage (except for areas required for access) (II.1, II.16).
- 1.15.3 Provide for the continued use of existing parking lots which extend to Mathews Avenue and Vanderbilt Lane, ensuring their compatibility with adjacent residences (II.1).

Design and Development

- 1.15.4 Implement the Artesia/Inglewood Public Improvement Project, including the incorporation of street trees, landscape (planters), street furniture (benches, trash receptacles, newsracks, etc.), street and crosswalk paving, lighting, public signage, and other appropriate elements (II.17).
- 1.15.5 Improve the design and landscape of the Artesia Boulevard median (II.17).
- 1.15.6 Install signage or other visual elements to distinctly identify the entries to the Artesia Boulevard commercial corridor (II.17).

- 1.15.7 Integrate improvements which facilitate transit use of Artesia Boulevard, such as bus shelters and recessed access points (I1.17).
- 1.15.8 Require that the renovation of existing structures or new development on sites where parking lots currently extend to Mathews Avenue and Vanderbilt Lane restrict their access to Artesia Boulevard, unless there are no feasible alternatives, and that areas facing, abutting, or exposed to residential areas be extensively landscaped to include a screen wall incorporating evergreen plant material (covering a majority of the wall within a one year period) (I1.1).
- 1.15.9 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).

Sub-Area 1: Galleria at South Bay Transitional Area-East of Ruxton Lane

Compared to the rest of the Artesia Boulevard corridor, the Galleria presents a substantial contrast in the character and scale of development. In recognition of this, the area immediately to the west of the Galleria, designated "C-4," is intended to function as a transitional area between the Galleria and the Artesia corridor. The area's nearness to the Galleria Transit Station and the general higher level of activity in the vicinity makes a higher intensity of development (1.0 maximum floor area ratio) in this area appropriate and compatible.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.16 Provide for the development of the parcels east of the hypothetical northern extension of Ruxton Lane corridor for uses which are transitional to (in type and scale) the Galleria at South Bay.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

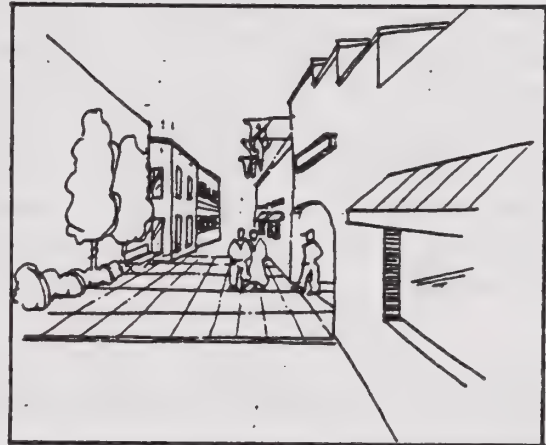
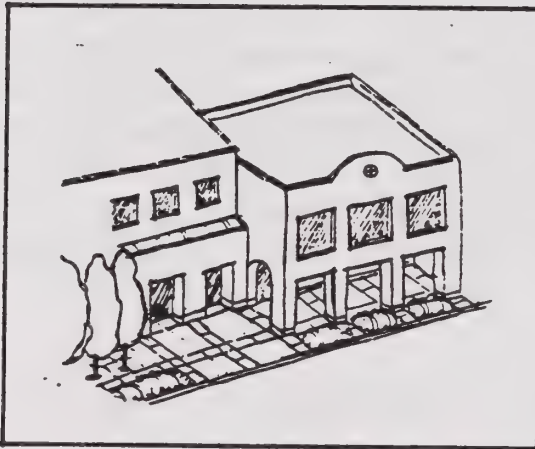
- 1.16.1 Accommodate a mix of retail and service commercial, household supply and furnishings, eating and drinking establishments, food sales, drug stores, professional offices, art and cultural facilities, overnight accommodations, and similar uses which serve local and regional residents on parcels designated as "C-4" (I 1.1).

Density/Intensity and Height

- 1.16.2 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of three stories (45 feet) (I1.1).

Design and Development

- 1.16.3 Require that building elevations above the second floor be set back from the street facing facade for the first 30 feet of property depth to minimize impacts of height and bulk on abutting sidewalks and streets (I1.1).



- 1.16.4 Establish physical and visual streetscape connections to the South Bay Galleria, which may include consistent street trees, signage, lighting, and other distinctive elements (I1.1, I1.17).

Sub-Area 2: Pedestrian-Oriented, Community-Serving Commercial Center-Phelan to Rindge Lane

This three-block section in the central portion of the corridor has been designated as an area with a "pedestrian-oriented" design character ("C-2-PD"). As it implies, "pedestrian-oriented" design is intended to create an environment that will foster pedestrian circulation among businesses once a person has arrived in the area. Pedestrian-oriented areas are considered to be desirable in certain locations both as a means to provide diversity in design character and to provide a different type of shopping experience and environment.

Pedestrian-orientation is accomplished through policies related to design and permitted uses. In terms of design, buildings are to be located close to the sidewalk to provide interest and stimulation to pedestrians, and to de-emphasize the presence of autos. Design details such as signs and windows are also specifically geared to the pedestrian view.

In terms of uses, emphasis is placed on commercial businesses that are not strictly destination-oriented, or uses that can generate walk-in business. Typical examples

would include book stores, apparel stores, specialty retail, restaurants and food stores. Offices, which tend to be more destination-oriented, are only allowed toward the rear or above the ground floor of buildings.

It is important in pedestrian-oriented areas for adjoining developments to be designed in a coordinated manner that will promote a continuation of pedestrian circulation along the street and between the developments. Related to this, pedestrian-oriented areas usually need to be confined to a somewhat limited area since persons are generally not willing to circulate long distances on foot (i.e. more than a few blocks from where they have parked).

A final criteria is that an area should already possess some of the elements that are reflective of pedestrian-orientation. In the case of this segment of Artesia Boulevard, a large proportion of the existing buildings are situated close to the sidewalk. In addition, the character of many of the businesses are compatible with pedestrian-oriented areas. Because of this, future development should work together with existing development to promote and enhance a pedestrian-oriented character.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.17 Provide for the development of uses which predominantly serve and are accessible to local residents, create a distinctive pedestrian activity area of the City, and are compatible with adjacent residential neighborhoods.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.17.1 Accommodate a mix of commercial uses which provide for the needs of nearby residents (as defined by Policy 1.16.1) and enhance pedestrian activity on parcels designated as "C-2-PD" (I1.1).
- 1.17.2 Accommodate professional, finance, insurance, real estate, and other offices at the rear or on the second level of structures whose ground floor frontage is occupied by pedestrian-active retail or similar uses on parcels designated as "C-2-PD" (I1.1).
- 1.17.3 Encourage the development of outdoor dining and other similar uses which do not impede pedestrian circulation on the sidewalks (I1.1).

Density/Intensity and Height

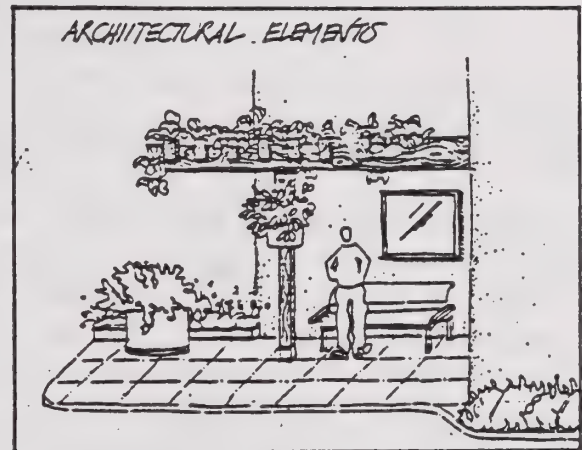
- 1.17.4 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two stories (30 feet) (I1.1).

Design and Development

1.17.5

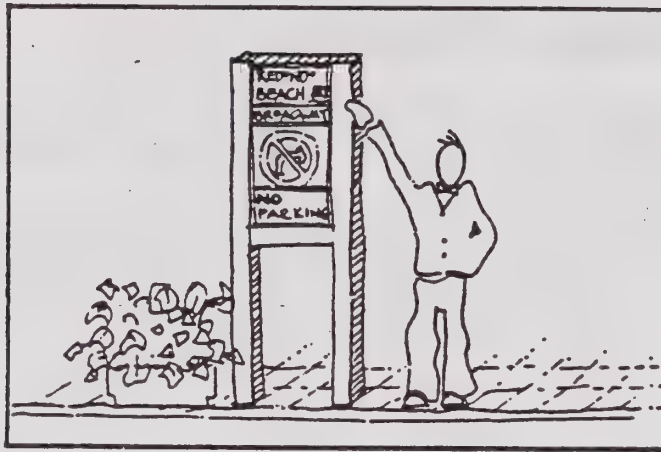
Require that buildings be sited and designed to enhance pedestrian activity along the sidewalks, including the following standards:

- a. siting of a minimum of 50% of the linear frontage of the building within proximity to the sidewalk to maintain a "building wall" character, except for areas contiguous with the structure used for outdoor dining or courtyards;



- b. assurance that the front setbacks are visually and physically accessible to pedestrians, except as may be required for security;
- c. incorporation of landscape (hardscape and softscape) which visually distinguishes the site and structure (planted beds, planters, window boxes, and other elements);
- d. provision of visually and physically transparent building elements (windows, door, etc.) along the majority of the ground elevation;
- e. incorporation of arcades and other recesses along the street elevation to provide visual relief and interest;
- f. extensive articulation of the building facade and use of multiple building volumes and planes;
- g. use of roofline and height variations to break up the massing and provide visual interest;
- h. visual differentiation of upper from lower floors;
- i. distinct treatment of building entrances; and

- j. use of pedestrian-oriented projecting and other signage (II.1, II.7, II.18).



Sub-Area 3: Mixed-Use Corridor-Blossom to West of Flagler Lane

This is one of several areas within the City that has been designated for "mixed use." The mixed use designation permits commercial development by itself (and is therefore a commercial designation), but also permits the option of constructing residential units on the upper floors of a development with commercial uses on the ground floor. To complement the incorporated residential units, an emphasis is placed on a "pedestrian-oriented" character of the commercial component as described under the preceding sub-area.

The concept of mixing commercial and residential uses has been gaining in popularity in many cities. Traditional planning practice has dictated that residential uses should be physically separated and buffered from other types of "conflicting" uses. More recent experience, however, has shown that when properly planned and designed, mixed use developments can create a unique and positive environment for residents and businesses alike.

In mixed use developments, residential units are located and designed to provide sufficient privacy and security, while commercial uses are located and designed to provide easy accessibility and good visibility to the public.

While separated in this manner, the two types of uses also enjoy the benefits of their mutual proximity. For residents, they have the convenience and added dimension of having desirable retail businesses within a short walk. For businesses, they can draw vitality from having a "round-the-clock" source of patronage. This adds a type of "energy" to a development that would not exist if it were strictly commercial.

There are also several other potential benefits of mixed use development. These include (1) enhancing the opportunities for redevelopment of an area that may be currently lacking in vitality; (2) introducing a new and interesting form of development into the city; (3) increasing affordable housing opportunities and

providing an alternative type of housing; and (4) helping to curb traffic congestion by decreasing the need for automobile trips.

This segment of Artesia Boulevard was designated for mixed use primarily because it is in substantial need of revitalization, and mixed use is viewed as a viable means of achieving this. Within this area only ("MU-1"), an option has also been provided for strictly residential development, provided that the entire side of a block is developed for this use. This is intended to provide yet another option for the revitalization of this area.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.18 Provide for the development of local-serving pedestrian-oriented commercial uses and integration of multi-family residential on the upper floors or in intervening clusters along the corridor, provided that they are compatible with adjacent commercial uses.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.18.1 Accommodate the development of pedestrian-oriented retail, professional office, and other related land uses as permitted by Policies 1.16.1 and 1.17.2 on parcels designated as "MU-1" (I1.1).
- 1.18.2 Accommodate residential uses on the second floor or higher of structures developed with commercial uses on the lower levels on parcels designated as "MU-1" (I1.1).
- 1.18.3 Allow for the development of multi-family residential uses where the entirety of the block frontage is developed for this use on parcels designated as "MU-1" (I1.1).

Density/Intensity and Height

- 1.18.4 Permit development of sites exclusively for commercial uses to a maximum intensity of a floor area ratio of 0.5 and height of two stories (30 feet) (I1.1).
- 1.18.5 Permit the development of mixed-use structures integrating residential with commercial uses to a maximum intensity of a floor area ratio of 1.5 and three stories (45 feet), providing that:
- a. all floor area exceeding the ratio of 0.7 is developed for residential units;

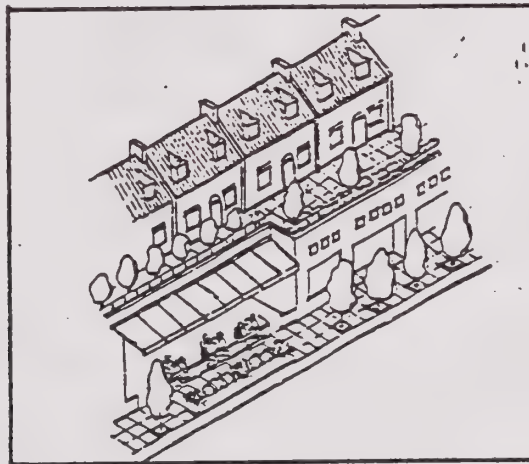
- b. the maximum residential density does not exceed 35 units per net acre; and
- c. a minimum floor area ratio of 0.3 is developed for commercial uses (I 1.1).

1.18.6 Permit the development of sites exclusively for residential uses to a maximum density of 35 units per net acre and three stories (45 feet) provided that the entire designated block frontage is developed for this use (I 1.1).

Design and Development

1.18.7 Require that commercial and mixed-use structures be designed to promote pedestrian activity in accordance with Policy 1.17.5 (I 1.1, I 1.7, I 1.18).

1.18.8 Require that mixed-use (commercial and residential) structures be designed to mitigate potential conflicts between the commercial and residential uses (e.g., noise, lighting, security, and automobile access) and provide adequate amenities for residential occupants. (I 1.1, I 1.7, I 1.18).



1.18.9 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I 1.1).

1.18.10 Require that sites developed exclusively for residential use incorporate elements to ensure their compatibility with adjacent commercial uses, including the following:

- a. buffer the residential from the commercial use by the use of walls, landscape, horizontal and vertical setbacks;
- b. adequately mitigate the noise, traffic, and lighting impacts of adjacent commercial uses;

- c. provide passive recreation open space on-site;
- d. provide adequate security; and
- e. prevent impacts on the integrity and continuity of other commercial uses (I1.1, I1.7, I1.8).

1.18.11 Require that projects developed exclusively for residential use be designed and sited to convey a high quality character in accordance with Policy 1.13.3 (I1.1, I1.7, I1.18).

1.18.12 Require that sites exclusively developed for residential use provide on-site open space amenities which are designed and sized to be accessible to and usable by tenants (I1.1).

Sub-Area 4: Community- and Highway-Related Corridors-Remaining Areas

This sub-area, designated "C-2," is actually three separate segments interspersed between the other sub-areas. This area is intended to accommodate basic "highway commercial" development. Although this sub-area does not feature any unique standards, it helps to create a differentiated pattern of development along the length of the Artesia Boulevard corridor. This sub-area also provides for commercial uses such as auto-related uses and "stand-alone" offices that are also needed to serve the full range of community needs.

Objective It shall be the objective of the City of Redondo Beach to:

1.19 Provide for the development of uses which predominantly serve and are accessible to local residents and compatible with adjacent residential neighborhoods.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

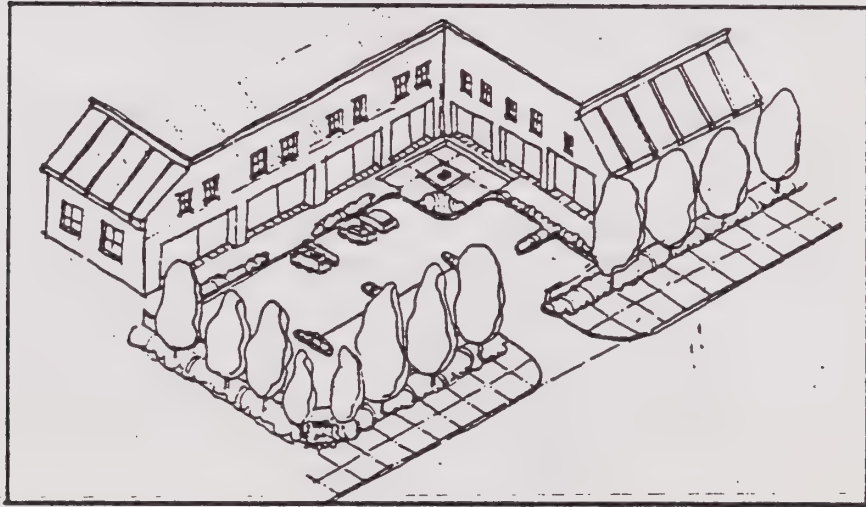
1.19.1 Accommodate a mix of retail, professional office, and similar uses in accordance with Policy 1.16.1 which principally provide for the needs of nearby residents on parcels designated as "C-2" (I1.1).

Density/Intensity and Height

1.19.2 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two stories (30 feet) (I1.1).

Design and Development

- 1.19.3 Require that structures sited on or within proximity to street frontage property lines incorporate adequate fixed and permanent landscape elements, possibly including planters, window boxes, or other elements (I1.1, I1.7, I1.18).
- 1.19.4 Require that a landscaped strip or berm, where feasible, be developed along property line frontages where the building is separated from the sidewalk by parking or an extensive setback, which shall contain trees and/or shrubs in addition to groundcover to provide three-dimensional visual character (I1.1, I1.7, I1.18).



PACIFIC COAST HIGHWAY

General Corridor

Pacific Coast Highway is South Redondo's main commercial street and north-south artery. Previously, almost the entire length of Pacific Coast Highway was under one commercial zoning designation. In the development of the General Plan, one of the objectives for Pacific Coast Highway was to differentiate sections of the corridor in terms of both the types and intensities of uses. The intent of this strategy was to (1) provide aesthetic relief and contrast along this long linear corridor, and (2) enhance the economic vitality of the corridor by "breaking up" the supply of land for different uses.

The economic study prepared for the General Plan showed that there was too much commercial development capacity in relation to forecasted demand. By changing some portions of Pacific Coast Highway to multiple-family residential, this creates a

better balance between the supply of land and the economic demand for commercial and residential uses.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.20 Provide for the evolutionary development of Pacific Coast Highway into distinct sub-areas which reflect and reinforce the existing primary activity areas and adjacent land uses, are oriented and accessible to the needs of nearby residents, and differentiated by use, density/intensity, and physical form and character.

Policies It shall be the policy of the City of Redondo Beach to:

Function and Permitted Uses

- 1.20.1 Accommodate land uses and provide for a physical form and scale of development which differentiates Pacific Coast Highway into the following sub-areas:

- a. East of Palos Verdes Boulevard: developed as a mixed-use node, integrating residential with community-serving retail and office commercial uses (Sub-Area 1);
- b. East side of Pacific Coast Highway, Palos Verdes Boulevard to Avenue G: developed as a high intensity community-serving commercial area (Sub-Area 2);
- c. Avenues A through H: developed as a low rise, low intensity neighborhood- and community-serving, pedestrian-oriented commercial "village" (Sub-Area 3);
- d. Knob Hill Avenue to Avenue A and Diamond Street to 190th/Anita Street: developed for community- and highway-oriented commercial uses (Sub-Area 4);
- e. Garnet Street to Vincent Street: developed for higher density residential to "break" the continuity of the commercial corridor and provide increased housing opportunities (Sub-Area 5);
- f. Knob Hill Avenue to Ruby Street: developed for community- and highway-serving commercial uses or multi-family residential uses (Sub-Area 6);
- g. Torrance Boulevard intersection and abutting properties: developed as a higher intensity mixed-use node, integrating residential with community-serving pedestrian-oriented retail and office commercial uses (Sub-Area 7);

- h. West side of Pacific Coast Highway, Vincent Street to Diamond Street: developed as a mixed-use node, integrating residential with office and retail commercial, capitalizing on its adjacency to the Civic Center (Sub-Area 8); and
- i. Anita Street/190th Street intersection: community- and highway-serving commercial node (Sub-Area 9) (II.1, II.16).

- 1.20.2 Publicly initiate and allow for the private sector development of municipal or shared parking lots, which incorporate bicycle storage facilities, along the street frontages to provide for joint use of adjacent commercial properties and allow for the incorporation of commercial uses into the structure along the street frontage (except for areas required for access) (II.1, II.16).

Design and Development

- 1.20.3 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (II.1, II.10, II.18).
- 1.20.4 Require that structures located on Pacific Coast Highway be sited and designed to minimize viewshed impacts from inland residential areas, as feasible (II.1).
- 1.20.5 Establish and implement a comprehensive plan for the upgrade of Pacific Coast Highway's streetscape to incorporate street trees, landscape (planters), street furniture (benches, trash receptacles, newsracks, etc.), street and crosswalk paving, lighting, public signage, and other appropriate elements, as permitted by Caltrans (II.17).
- 1.20.6 Install signage or other visual elements to distinctly identify the entries and specific districts and nodes of the Pacific Coast Highway corridor (II.17).
- 1.20.7 Integrate improvements which facilitate transit use of Pacific Coast Highway, such as bus shelters and recessed access points (II.17).

Sub-Area 1: Mixed-Use Node-Palos Verdes Boulevard and South

For a general discussion of mixed use development, see Artesia Boulevard: Sub-Area 3.

This area was designated for mixed use development ("MU-3") primarily because of its physical suitability for development of this scale. In particular, this area features lot depths in excess of 300 feet and is adjoined to the rear by high density apartment complexes situated at a higher elevation. Because of these factors, this area is more capable of supporting larger scale, higher intensity development without creating undue impacts. This fairly large area also provides a significant opportunity for the production of new affordable multiple-family housing.

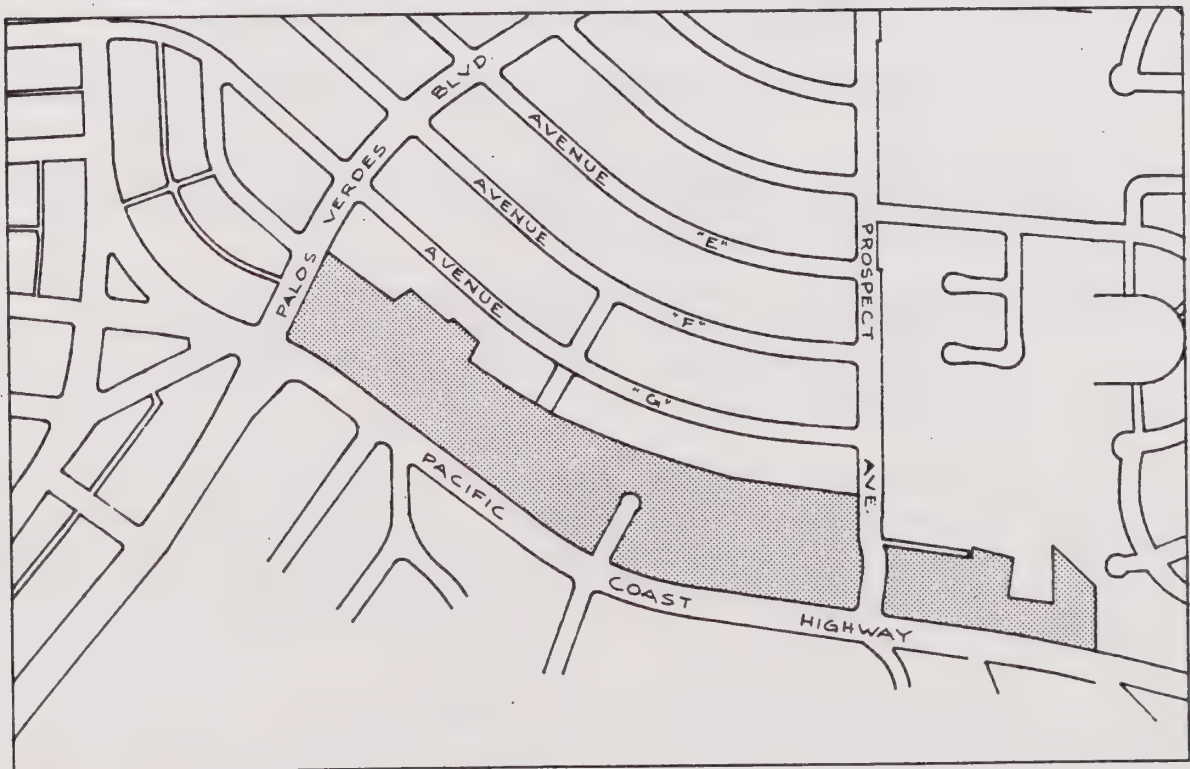
The standards for this area include a few differences from other mixed use areas. These are (1) residential units can be developed on the ground floor of buildings located behind buildings with ground floor commercial uses; and (2) the minimum commercial floor area ratio of 0.3 applies only the first 130 feet of property depth. These standards were instituted since it was not felt to be economically or physically practicable to extend commercial uses entirely to the rear of these relatively deep sites.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.21 Provide for the development of community-serving retail and office commercial and mixed-use projects integrating residential with commercial uses southeast of Palos Verdes Boulevard as a primary activity center of the City.

**Pacific Coast Highway
Sub-Area 1**

■ MU-3



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

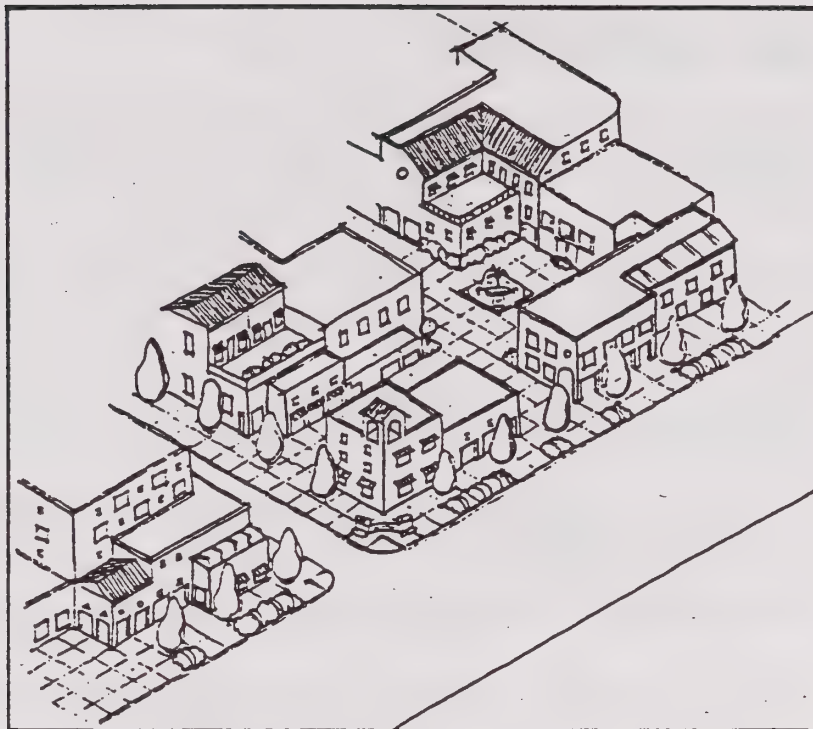
- 1.21.1 Accommodate the development of pedestrian-oriented retail, professional office, and related land uses as permitted by Policies 1.16.1 and 1.17.2 on parcels designated as "MU-3" (I1.1).
- 1.21.2 Accommodate residential uses according to the following standards:
- a. along the street frontage: on the second floor or higher of structures developed with commercial uses on the lower levels; and
 - b. structures located behind street-facing mixed retail and residential buildings: on any floor (including the ground floor) or on the second level or higher with retail or parking located on the ground floor (I 1.1).

Density/Intensity and Height

- 1.21.3 Permit development of sites exclusively for commercial uses to a maximum intensity of a floor area ratio of 1.0 and height of two stories (30 feet) (I1.1).
- 1.21.4 Permit the development of mixed-use structures integrating residential with commercial uses to a maximum intensity of a floor area ratio of 1.5 and three stories (45 feet), providing that:
- a. all floor area exceeding the ratio of 0.7 is developed for residential units;
 - b. the maximum residential density for "market-rate" units does not exceed 35 units per net acre;
 - c. residential densities exceeding 35 units per net acre shall be developed for units affordable for low and moderate income households; and
 - d. a minimum floor area ratio of 0.3, applied to the first 130 feet of property depth from Pacific Coast Highway, is developed for commercial uses. (This shall not be interpreted to limit the siting of commercial uses to the first 130 feet of lot depth) (I 1.1).

Design and Development

- 1.21.5 Require that commercial and mixed-use structures be designed to promote pedestrian activity in accordance with Policy 1.17.5 (I1.1, I1.7, I1.18).
- 1.21.6 Require that mixed-use structures be designed to mitigate potential conflicts in accordance with Policy 1.18.8 (I1.1, I1.7, I1.18).
- 1.21.7 Require that new development be sited and designed to convey a "village" character, including the:
- a. siting of structures on common pedestrian walkways, courtyards, and other open spaces;
 - b. incorporation of arcades and other setbacks along the street frontage;
 - c. use of multiple building volumes and masses to reduce the "sense" of large scale "boxes" and create a visual fabric of multiple buildings;
 - d. incorporation of extensive facade modulation and articulation and design details;
 - e. use of roofline and height variations to break up massing and provide visual interest;
 - f. use of unified architectural design styles;
 - g. clear identification of building entrances;
 - h. extensive use of landscape (planting beds, raised planters, containers, or window boxes) which provides a three-dimensional character; and
 - i. use of pedestrian-oriented signage (e.g., projecting signs) (I1.1, I1.7, I1.18).



- 1.21.8 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (II.1).

Sub-Area 2: High Intensity Community Commercial-East Side, Palos Verdes Boulevard to Avenue G

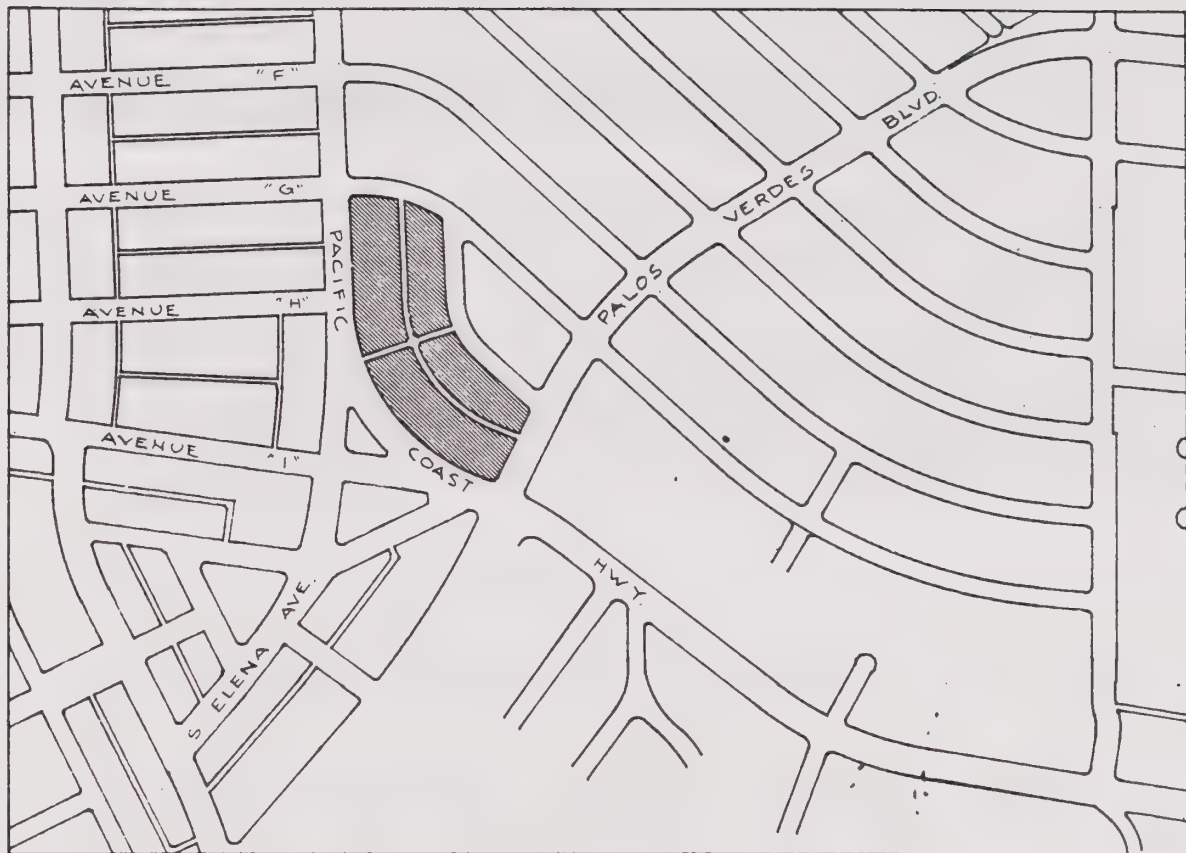
This area was designated for commercial uses ("C-4") at a higher floor area ratio (1.0) primarily because of its relatively large parcel sizes. This should generally make it easier to assemble sites of the size necessary to comfortably support development of this intensity.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.22 Provide for community- and highway-oriented commercial uses on the east side of Pacific Coast Highway, between Palos Verdes Boulevard and Avenue G.

**Pacific Coast Highway
Sub-Area 2**

■ C-4



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.22.1 Permit retail service and office commercial uses in accordance with Policy 1.16.1 on parcels designated as "C-4" (I1.1).

Density/Intensity and Height

- 1.22.2 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of two stories (30 feet) (I1.1).

Design and Development

- 1.22.3 Require that a landscaped setback be developed along the Avenue H frontage to act as a visual buffer with adjacent residential units (I1.1).

- 1.22.4 Require that new development be sited and designed to convey a "village" character, in accordance with the requirements of Policy 1.21.7 (11.1, 11.7, 11.18).

**Sub-Area 3: Low Intensity, Pedestrian-Oriented Commercial Village-
Avenues A through H**

The primary objective for this area, designated "C-2-PD," is to maintain and enhance the modest scale, pedestrian-oriented type of development that currently exists. Along this stretch of Pacific Coast Highway, almost all of the buildings have been built close to the sidewalk. This situation helps to encourage pedestrian circulation along the sidewalk and between businesses. The design and development policies for this area will assure that future development will continue to promote and enhance the existing scale and character of development.



Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.23 Provide for community- and neighborhood-oriented commercial uses in a pedestrian scaled "village" environment which serves the needs and are compatible with adjacent residential neighborhoods.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.23.1 Accommodate community- and neighborhood-oriented commercial uses in accordance with Policies 1.16.1 through 1.17.2, except those which require large scale and volume buildings and are incompatible with the intended "village" character of the Avenues on parcels designated as "C-2-PD" (I1.1).

Density/Intensity and Height

- 1.23.2 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) (I1.1).

Design and Development

- 1.23.3 Require that development be sited and designed to convey a low-rise "village" character, including the:
- a. incorporation of arcades or other setbacks along the street frontage;
 - b. extensive use of landscape (trees, shrubs, and groundcover), providing a three-dimensional visual character;
 - c. incorporation of extensive facade modulation and articulation and design details; and
 - d. use of roofline and height variations to break up massing and provide visual interest (I1.1, I1.7, I1.16).
- 1.23.4 Require that buildings be sited and designed to enhance pedestrian activity along the sidewalks, in accordance with Policy 1.17.5 (I1.1, I1.7, I1.18).
- 1.23.5 Implement streetscape improvements along the sidewalks including, but not limited to the use of decorative/aesthetic materials and colors for crosswalks and/or sidewalks, distinctive public signage, street trees, street furniture, and similar elements (I1.17).

Sub-Area 4: Community and Highway Oriented Corridors-Avenue A to Knob Hill Avenue, Diamond Street to Anita Street, and Pearl Street to Ruby Street

These segments of the Pacific Highway corridor have been designated to continue with low-intensity, highway-oriented commercial development ("C-2").

The segment between Diamond and Anita Streets, on the east side of the street, warranted some special consideration because of the number of small lots and odd triangular-shaped blocks. These circumstances have made it difficult to assemble building sites of the size and shape usually needed to facilitate new commercial development. This will continue to constrain the area's development potential in the future.

The most readily available way to overcome these obstacles to new development is through the use of redevelopment laws. While there has been past community resistance to the use of redevelopment, it is also recognized that meaningful revitalization of this area will be very difficult to achieve without it. A policy has therefore been adopted to consider the use of redevelopment in future attempts to revitalize this area.

Reference should also be made to the Harbor/Civic Center Specific Plan, Pacific Coast Highway Sub-Area, Zones 1 and 2, which establishes additional standards and policies for the portion of this area between Diamond Street and Anita/Herondo Streets.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.24 Provide for the development of community- and highway-oriented commercial uses which are accessible to local residents and compatible with adjacent residential areas.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses


- 1.24.1 Accommodate retail and office commercial, restaurant, and other uses in accordance with Policy 1.16.1 on parcels designated as "C-2" (11.1).

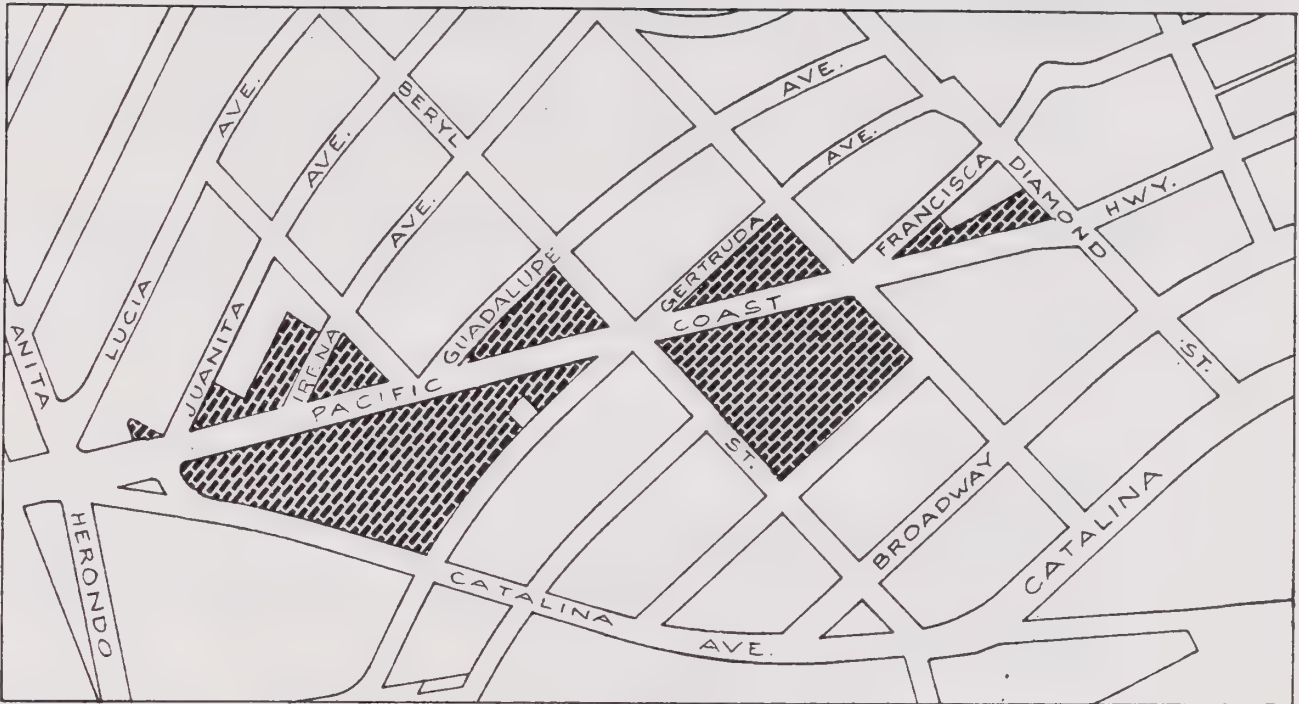
Density/Intensity and Height

- 1.24.2 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) (11.1).

**Pacific Coast Highway
(Sub-Area 4)
(North Portion)**



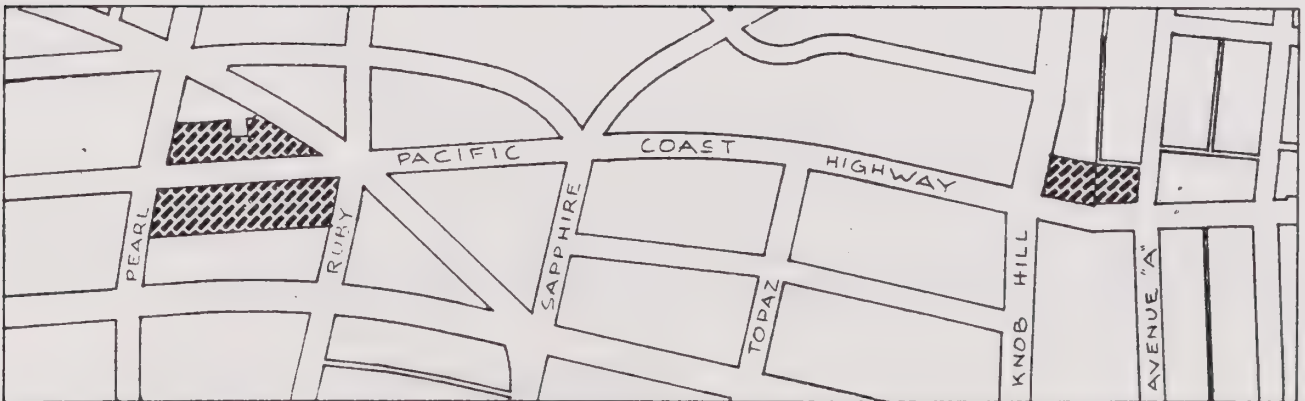
 C-2



**Pacific Coast Highway
(Sub-Area 4)
(South Portion)**



 C-2



Design and Development

- 1.24.3 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1).
- 1.24.4 Require that development be sited and designed to convey a low-rise "village" character as prescribed in Policy 1.23.3 (I1.1, I1.7, I1.18).
- 1.24.5 Consider the authorities of California Redevelopment Law as a mechanism to revitalize the parcels on the east side of Pacific Coast Highway between Diamond Street and Anita Street, including the aggregation and reconfiguration of parcels for higher economic use and improved compatibility with adjacent residential uses (I1.12).

Sub-Area 5: Residential Clusters- Garnet Street to Vincent Street

The most significant change in land use designations along Pacific Coast Highway occur within Sub-Areas 5 and 6, where the general commercial designation has been changed to multiple-family residential ("RH"). There were several reasons for making this change.

Pacific Coast Highway has historically been zoned as a continuous commercial corridor. The economic study prepared for the General Plan, however, indicated that there was a surplus of commercially-zoned property along the corridor in relation to demand. This imbalance has likely contributed to depressing the potential for new commercial development. Reducing the amount of commercially-zoned property should help to enhance the development potential of the property that remains commercial.

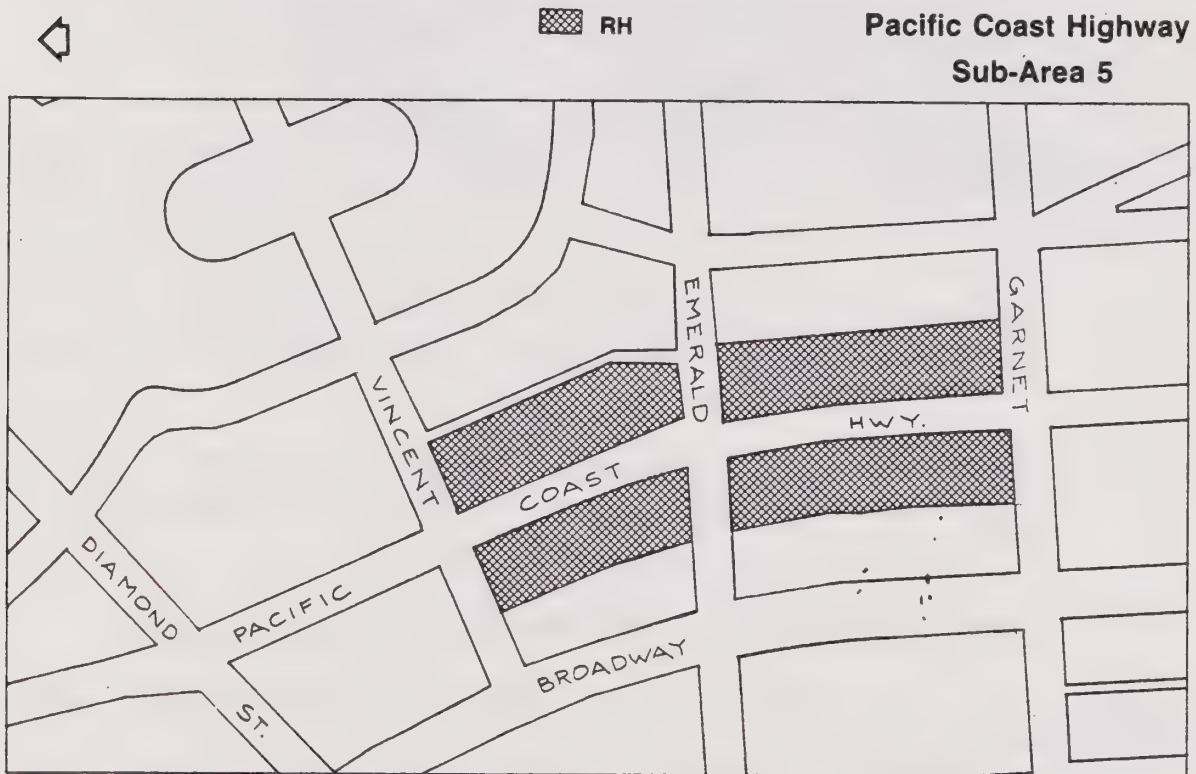
Conversely, there is a significant need for and lack of sites for new multiple-family housing in the City. Pacific Coast Highway presents a viable location for this while avoiding the need to increase densities within established residential neighborhoods. Based on these factors, the portions of Pacific Coast Highway that were designated "RH" are areas where there is currently little commercial investment and where residential and institutional uses already exist.

In addition to enhancing opportunities for both commercial and residential development, residential development along segments of Pacific Coast Highway will help to break up the long, monotonous commercial corridor and add new visual interest.

Reference should also be made to the Harbor/Civic Center Specific Plan, Pacific Coast Highway Sub-Area, Zones 4 and 5A, which establishes additional standards and policies for this area.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.25 Provide for the development of residential units as "clusters," interrupting the continuity of the commercial "strip" along Pacific Coast Highway and providing additional housing opportunities.



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.25.1 Accommodate the development of residential units (townhomes, condominiums, and apartments) on parcels designated as "RH" (I1.1).
- 1.25.2 Accommodate the development of community-serving commercial uses on the McCandless site adjacent to Pacific Coast Highway (I1.1).

Density/Intensity and Height

- 1.25.3 On parcels designated as "RH" permit development of residential units to a maximum density of 28 units per net acre and three stories (35 feet) (I1.1).

- 1.25.4 Allow a maximum of 52.0 dwelling units per acre for senior citizen, affordable and/or low-moderate income housing, on the McCandless site (between Emerald Street and Garnet Street) (I1.1).
- 1.25.5 On a maximum of 56,000 square feet of the McCandless site adjacent to Pacific Coast Highway, permit the inclusion of community-serving commercial uses at a maximum 0.5 floor area ratio (I1.1).

Design and Development

- 1.25.6 Require that residential units and sites be designed to convey a high quality character, in accordance with Policies 1.13.3 and 1.18.12 (I1.1, I1.7, I1.18).
- 1.25.7 Require that the residential sites be designed to be compatible with adjacent commercial development along Pacific Coast Highway, in accordance with Policy 1.18.10 (I1.1).
- 1.25.8 Require that commercial uses on the McCandless site be designed and sited to ensure compatibility with on-site adjacent residential uses (I1.1, I1.7, I1.18).

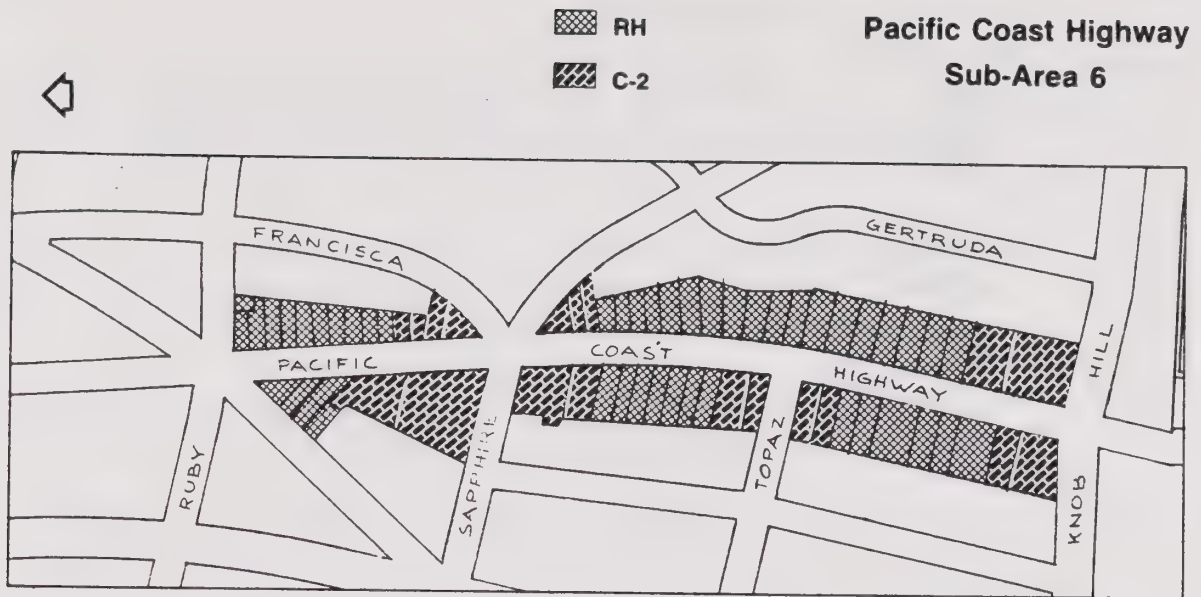
Sub-Area 6 Ruby Street to Knob Hill Avenue

For a discussion of the multiple-family residential designation ("RH"), refer to Sub-Area 5 above.

Within this three-block segment, there is a mixture of property designated for commercial ("C-2") and multiple-family residential ("RH") use. This somewhat unorthodox pattern was arrived at after extensive input from property owners during the public hearing process. The adopted pattern recognized the existing land use pattern and the viability of commercial uses at corner intersections.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.26 Provide for the development of residential units as "clusters," interrupting the continuity of the commercial "strip" along Pacific Coast Highway and providing additional housing opportunities, and continue viable commercial land uses on more visible and accessible corner locations.



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.26.1 Accommodate the development of residential units (townhomes, condominiums, and apartments) on parcels designated as "RH" (I 1.1).
- 1.26.2 Accommodate retail, services and office commercial, restaurants, and other commercial uses, in accordance with Policy 1.16.1 on parcels designated "C-2" (I 1.1).

Density/Intensity and Height

- 1.26.3 On parcels designated as "RH" permit development of residential units at a maximum density of 28 units per net acre, and a height of 30 feet (two stories) (I 1.1).
- 1.26.4 On parcels designated as "C-2" permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) (I 1.1).

Design and Development

- 1.26.5 Require that residential units and sites be designed to convey a high quality character, in accordance with Policies 1.13.3 and 1.18.12 (I1.1, I1.7, I1.18).
- 1.26.6 Require that the residential sites be designed to be compatible with adjacent commercial development along Pacific Coast Highway, in accordance with Policy 1.18.10 (I1.1).
- 1.26.7 Require that commercial sites incorporate extensive landscaping along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1).
- 1.26.8 Require that commercial development be sited and designed to convey a low-rise "village" character as prescribed in Policy 1.23.3 (I1.1, I1.7, I1.18).

Sub-Area 7: Mixed-Use Node-Torrance Boulevard Intersection

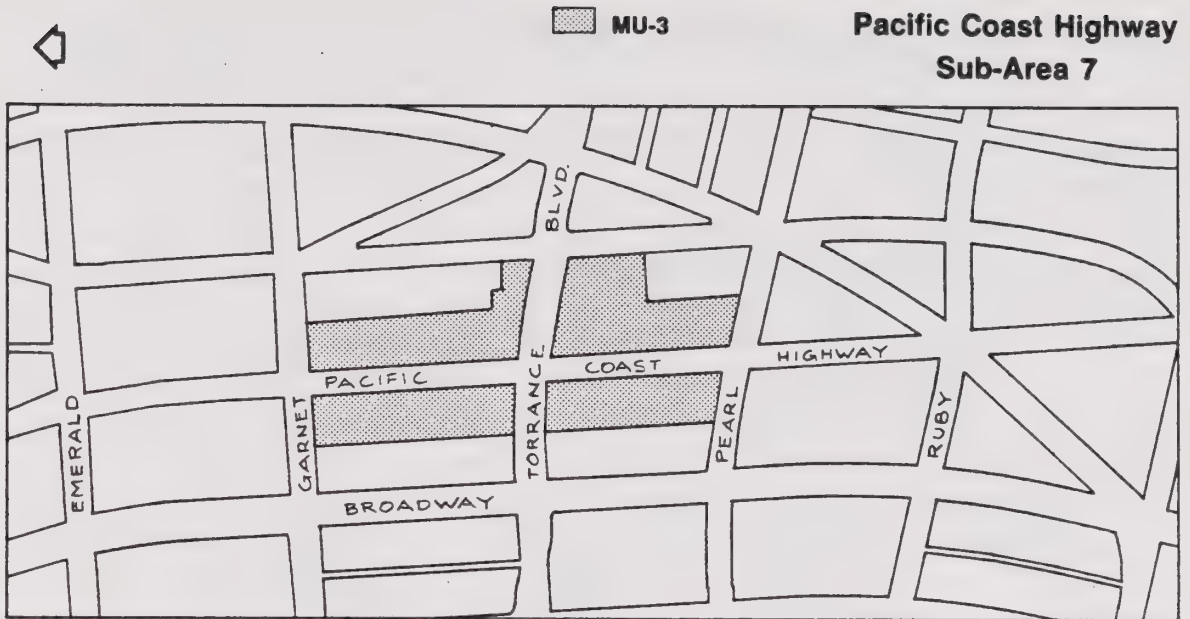
For a general discussion of mixed use development, see Artesia Boulevard: Sub-Area 3.

Pacific Coast Highway and Torrance Boulevard is the most prominent and highly trafficked intersection in South Redondo. Taking advantage of this, this area was designated for mixed use ("MU-3") to make this location into a focal point of activity within South Redondo. Special attention will be given to encourage the type of design and uses that will make the area distinctive in terms of both appearance and activity.

Reference should also be made to the Harbor/Civic Center Specific Plan, Pacific Coast Highway Sub-Area, Zone 6, which establishes additional standards and policies for this area.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.27 Provide for the development of a higher intensity pedestrian-oriented activity node containing community-oriented commercial uses and/or mixed-use development projects, integrating residential with commercial uses, as a primary activity area of the City.



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.27.1 Accommodate the development of pedestrian-oriented retail, professional office, and related land uses as permitted by Policies 1.16.1 and 1.17.2 on parcels designated as "MU-3" (I1.1).
- 1.27.2 Accommodate residential uses in accordance with Policy 1.18.2 (I1.1).

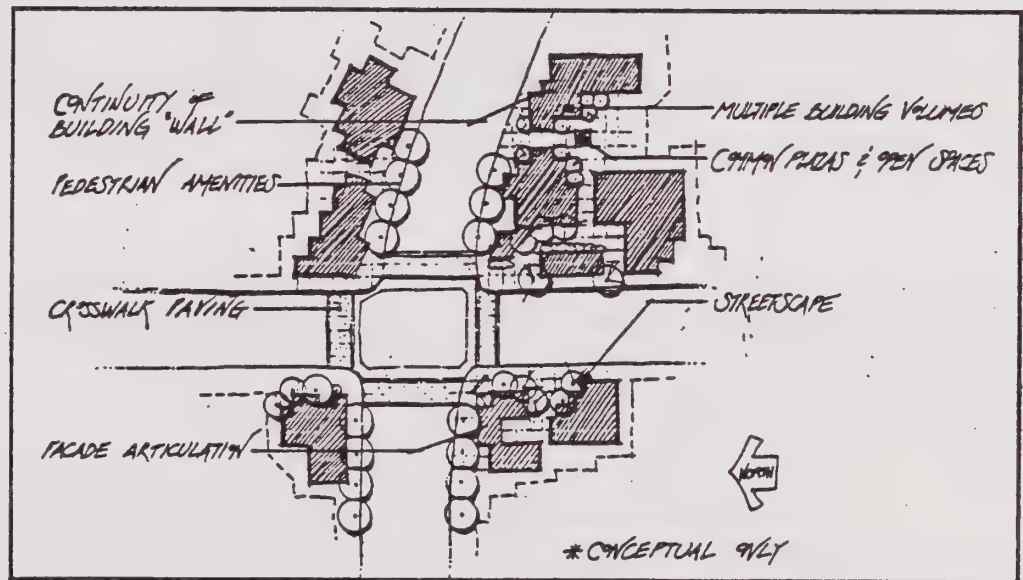
Density/Intensity and Height

- 1.27.3 Permit development of sites exclusively for commercial uses to a maximum intensity of a floor area ratio of 1.0 and height of two stories (30 feet) (I1.1).
- 1.27.4 Permit the development of mixed-use structures integrating residential with commercial uses to a maximum intensity of a floor area ratio of 1.5 and three stories (45 feet), providing that:
 - a. all floor area exceeding the ratio of 0.7 is developed for residential units;

- b. the maximum residential density does not exceed 35 units per net acre; and
- c. a minimum floor area ratio of 0.3 is developed for commercial uses (I 1.1).

Design and Development

- 1.27.5 Require that commercial and mixed-use structures be designed to promote pedestrian activity in accordance with Policy 1.17.5 (I 1.1, I 1.7, I 1.18).



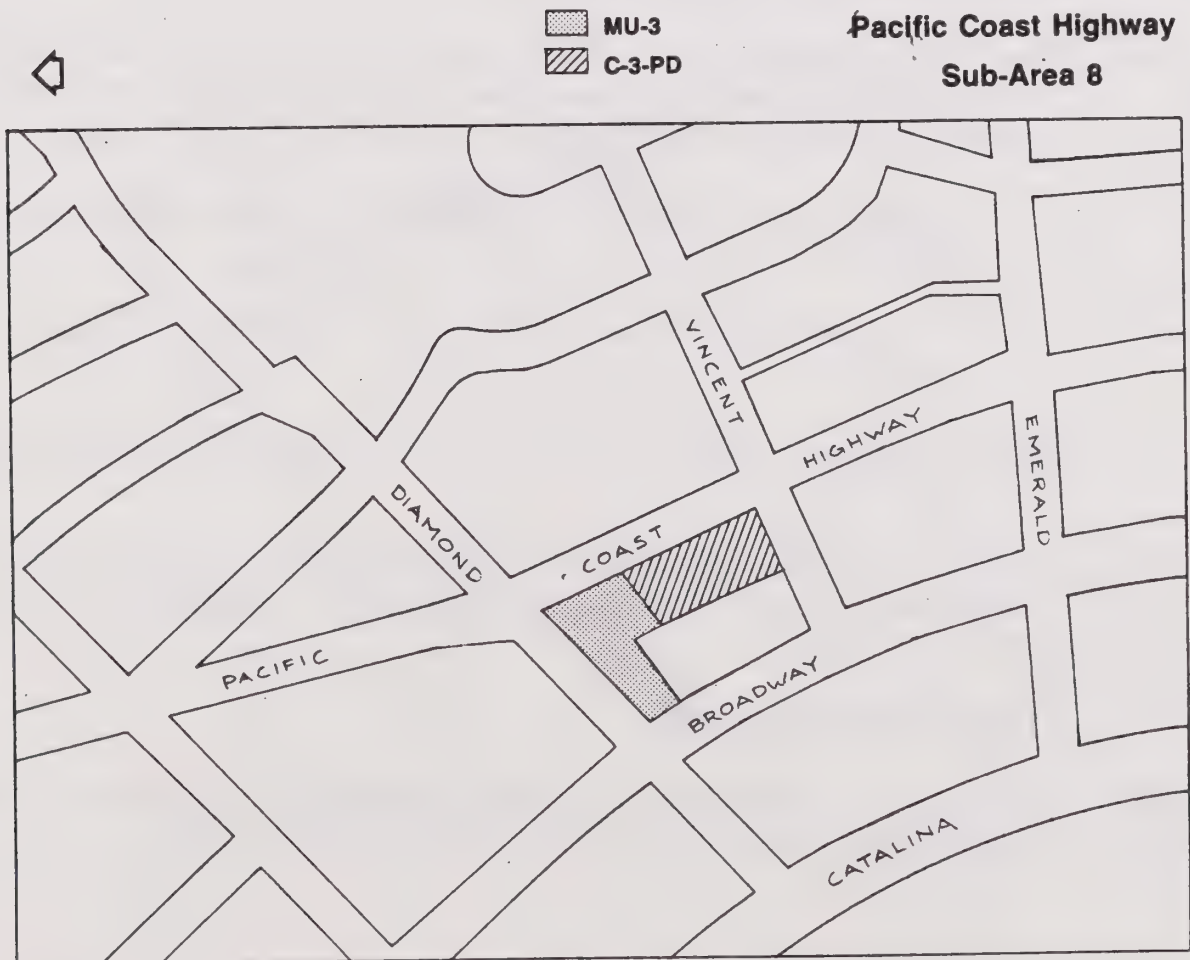
- 1.27.6 Require that mixed-use structures be designed to mitigate potential conflicts in accordance with Policy 1.18.8 (I 1.1, I 1.7, I 1.18).
- 1.27.7 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I 1.1).
- 1.27.8 Require that any development projects involving multiple parcels site and design buildings to convey a "village" character, in accordance with Policy 1.21.7 (I 1.1, I 1.7, I 1.18).
- 1.27.9 Implement streetscape improvements in the public areas at the intersection of Pacific Coast Highway and Torrance Boulevard including, but not limited to the use of decorative/aesthetic materials and colors for crosswalks and/or sidewalks, distinctive public signage, street trees, street furniture, and similar elements (I 1.17).

Sub-Area 8: Civic Center-Related Node-West Side, Vincent Street to Diamond Street

The designations for this one-block area are influenced by its location between the Civic Center to the north and an area designated for multiple-family residential to the south. The area adjacent to Diamond Street is designated for mixed use ("MU-3") with a maximum floor area ratio of 1.0 for commercial development and 1.5 for mixed use. This is intended to allow for higher intensity commercial and residential uses that would complement the activity of the Civic Center.

The area extending south to Vincent Street is designated for pedestrian-oriented commercial uses ("C-3-PD") with a maximum floor area ratio of 0.7. The pedestrian orientation is intended to take advantage of the concentrations of people (residents, workers, and students) within the immediate surrounding area, including a high density residential designation ("RH") immediately to the south.

Reference should also be made to the Harbor/Civic Center Specific Plan, Pacific Coast Highway Sub-Area, Zones 5 and 6A, which establishes additional standards and policies for this area.



Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.28 Provide for the development of parcels adjacent to the Civic Center for uses which relate to and/or are induced by governmental activities and adjacent residential clusters.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.28.1 Accommodate the development of pedestrian-oriented retail, professional office, and related land uses as permitted by Policies 1.16.1 and 1.17.2 on parcels designated as "MU-3" and "C-3-PD" (I1.1).
- 1.28.2 Accommodate residential uses in accordance with Policy 1.18.2 on parcels designated as "MU-3" (I1.1).

Density/Intensity and Height

- 1.28.3 Permit development of sites designated as "MU-3" exclusively for commercial uses to a maximum intensity of a floor area ratio of 1.0 and height of two stories (30 feet) (I1.1).
- 1.28.4 Permit the development of mixed-use structures integrating residential with commercial uses to a maximum intensity of a floor area ratio of 1.5 and three stories (45 feet) on sites designated as "MU-3," providing that:
- a. all floor area exceeding the ratio of 0.7 is developed for residential units;
 - b. the maximum residential density does not exceed 35 units per net acre; and
 - c. a minimum floor area ratio of 0.3 is developed for commercial uses (I 1.1).
- 1.28.5 Permit development of sites designated as "C-3" for commercial uses to a maximum intensity of a floor area ratio of 0.7 and height of two stories (30 feet) (I1.1).

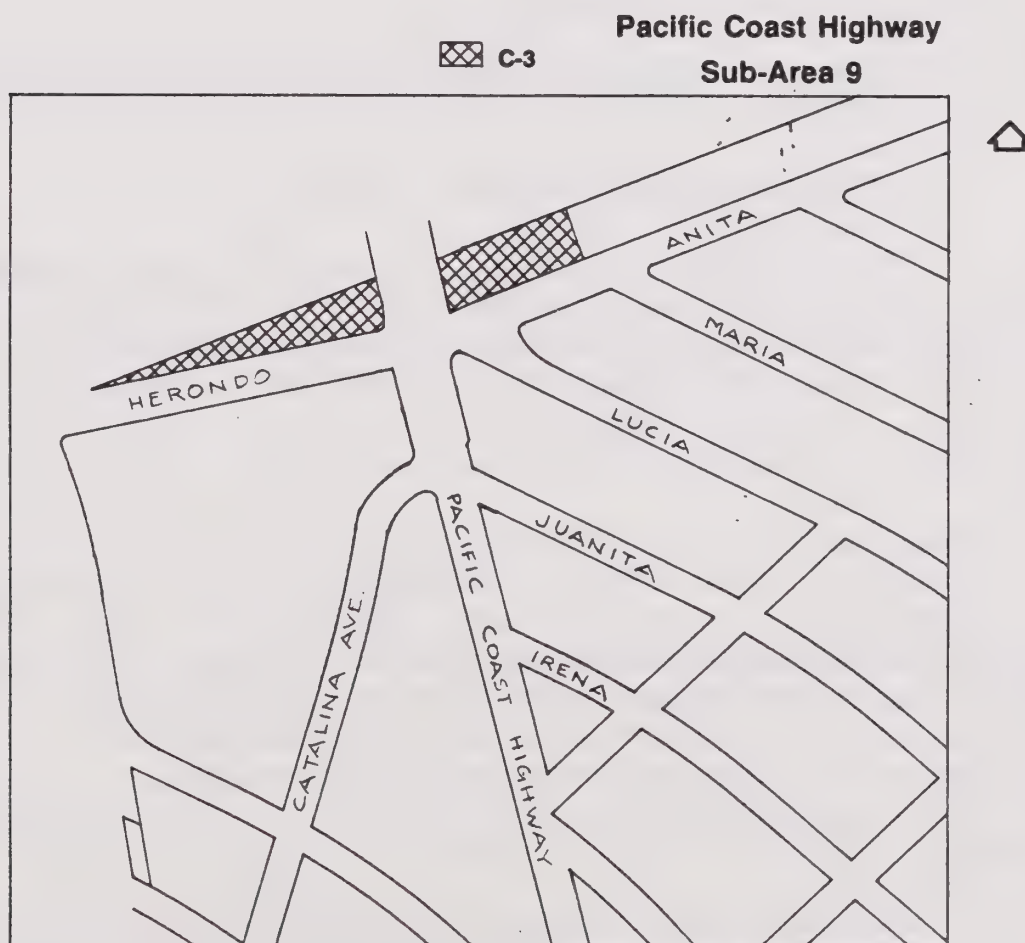
Design and Development

- 1.28.6 Require that mixed-use structures be designed to mitigate potential conflicts in accordance with Policy 1.18.8 (I1.1, I1.7, I1.18).

- 1.28.7 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (11.1).
- 1.28.8 Require that commercial and mixed-use structures be designed to promote pedestrian activity in accordance with Policy 1.17.5 (11.1, 11.7, 11.18).

**Sub-Area 9: Community- and Highway-Oriented Commercial Node-
Anita Street Intersection**

This small area is situated between Herondo/Anita Streets and the City boundary with Hermosa Beach. It has been designated for general commercial uses ("C-3") at a 0.7 floor area ratio (FAR) in recognition of its location at a major street intersection and because of slightly larger than average lot sizes.



Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.29 Provide for the development of community- and highway-oriented commercial uses which are accessible to local residents and compatible with adjacent residential areas.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.29.1 Accommodate retail and office commercial, restaurant, and other uses in accordance with Policy 1.16.1 on parcels designated as "C-3" (I1.1).

Density/Intensity and Height

- 1.29.2 Permit development to a maximum intensity of a floor area ratio of 0.7 and height of two (2) stories (30 feet) (I1.1).

Design and Development

- 1.29.3 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1).



TORRANCE BOULEVARD

From Pacific Coast Highway eastward, Torrance Boulevard has been historically developed with highway-oriented commercial uses, including a small concentration of medical offices between Francisca and Irena Avenues. With the exception of the mixed use node at Pacific Coast Highway (see Pacific Coast Highway, Sub-Area 7), no significant changes are proposed in the function or orientation of Torrance Boulevard.

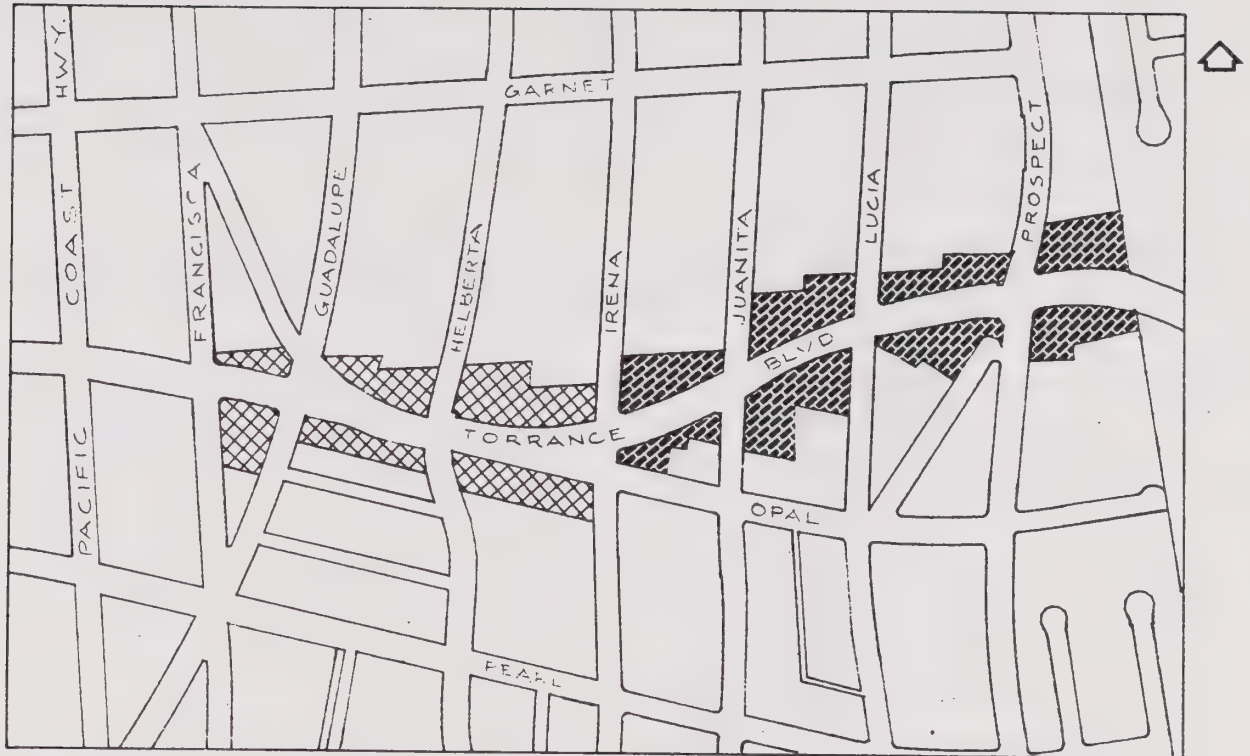
Two different levels of development intensity have been established west and east of Irena Avenue. The portion of Torrance Boulevard west of Irena Avenue has been designated "C-3" with a maximum floor area ratio is 0.7. This is consistent with the intensity of the existing medical offices and serves as a transition from the higher intensity of the mixed use node at Pacific Coast Highway. The area east of Irena Avenue has been designated "C-2" with a maximum floor area ratio of 0.5, a typical standard for general highway-oriented commercial.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.30 Provide for the continued development of Torrance Boulevard as a local-serving commercial corridor containing a diversity of uses which are primarily oriented to the needs and accessible to nearby residents.

 C-3
 C-2

Torrance Boulevard



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.30.1 Accommodate retail, professional office, and other community-serving land uses as prescribed in Policy 1.16.1 (I1.1).
- 1.30.2 Accommodate expanded medical, medical-related offices, and ancillary uses (I1.1).

Density/Intensity and Height

- 1.30.3 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) on parcels designated as "C-2" (I1.1).
- 1.30.4 Permit development to a maximum intensity of a floor area ratio of 0.7 and height of two (2) stories (30 feet) on parcels designated as "C-3" (I1.1).

Design and Development

- 1.30.5 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1).

- 1.30.6 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).
- 1.30.7 Require that development be sited and designed to convey a low-rise "village" character in accordance with Policy 1.23.3 (I1.1, I1.7, I1.18).
- 1.30.8 Implement streetscape improvements including, but not limited to, the use of distinctive public signage, entry identification, street trees, street furniture, and similar elements to provide visual identity to the Torrance Boulevard corridor (I1.17).
- 1.30.9 Implement bus shelters, benches, or other improvements which facilitate transit use of the corridor (I1.17).

AVIATION BOULEVARD

The stretch of Aviation Boulevard from Aviation Boulevard south to Harper Avenue, designated "C-2," has been historically developed with highway-oriented commercial uses, including a number of auto-related uses. The General Plan continues to maintain the same highway-oriented commercial function for Aviation Boulevard with the inclusion of policies to enhance the quality and appearance of future development.

Objective *It shall be the objective of the City of Redondo Beach to:*

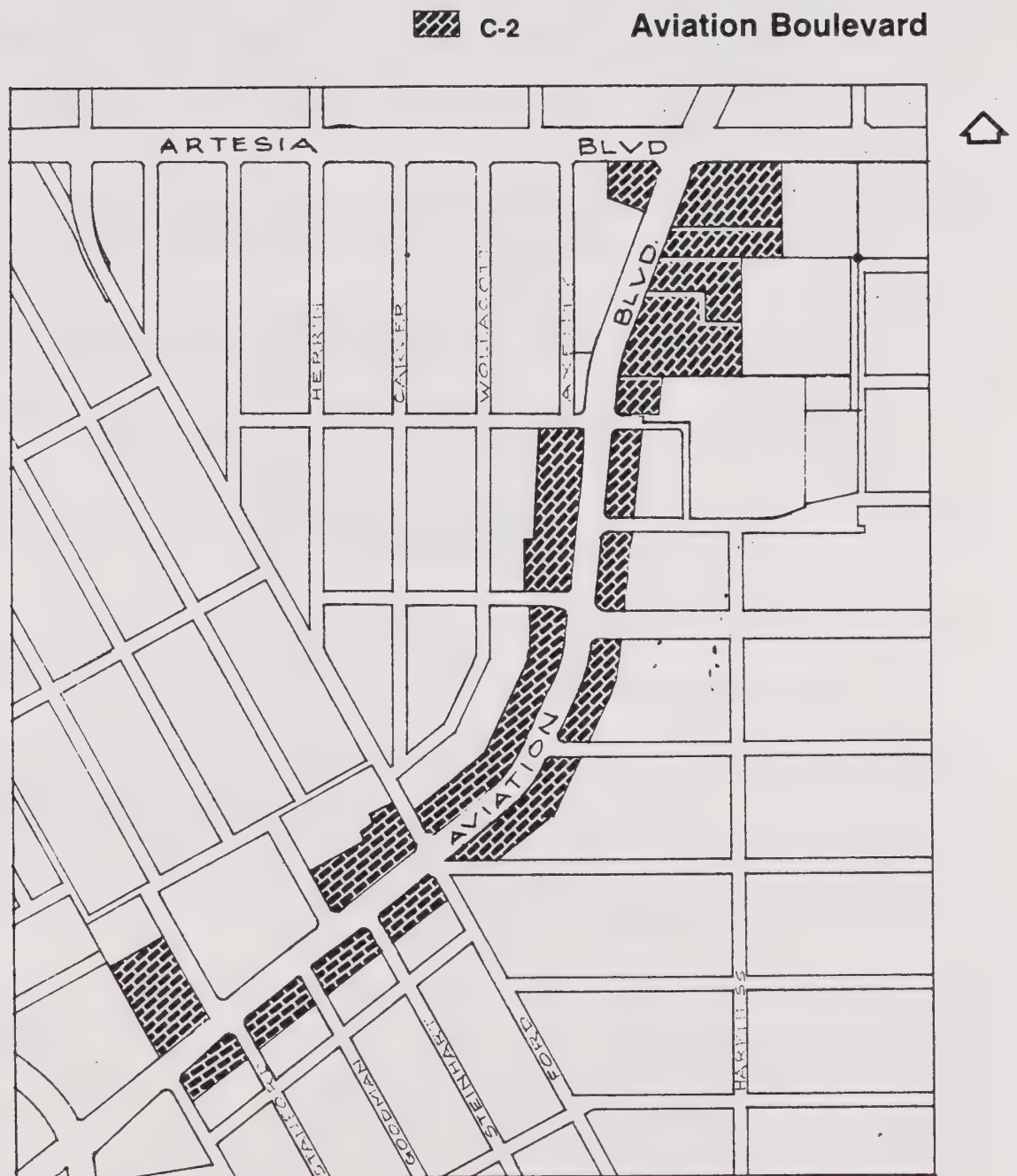
- 1.31 Provide for the continued development of Aviation Boulevard as a local-serving commercial corridor containing a diversity of retail, personal service, office, and similar uses which are primarily oriented to the needs of and accessible to nearby residents.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.31.1 Accommodate retail, professional office, and other community-serving land uses as prescribed in Policy 1.16.1 on parcels designated as "C-2" (I1.1).
- 1.31.2 Publicly initiate and allow for the private sector development of municipal or shared parking lots, which incorporate bicycle storage facilities, along the street frontages to provide for joint use of adjacent

commercial properties and allow for the incorporation of commercial uses into the structure along the street frontage (except for areas required



Density/Intensity and Height

- 1.31.3 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) on parcels designated as "C-2" (11.1).

Design and Development

- 1.31.4 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).
- 1.31.5 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1).
- 1.31.6 Require that development be sited and designed to convey a low-rise "village" character in accordance with Policy 1.23.3 (I1.1, I1.7, I1.18).
- 1.31.7 Establish a system of public signage or monuments which distinctly identify the Aviation Boulevard corridor (I1.17).
- 1.31.8 Implement bus shelters, benches, or other improvements which facilitate transit use of the corridor (I1.17).

RIVIERA VILLAGE

General Village

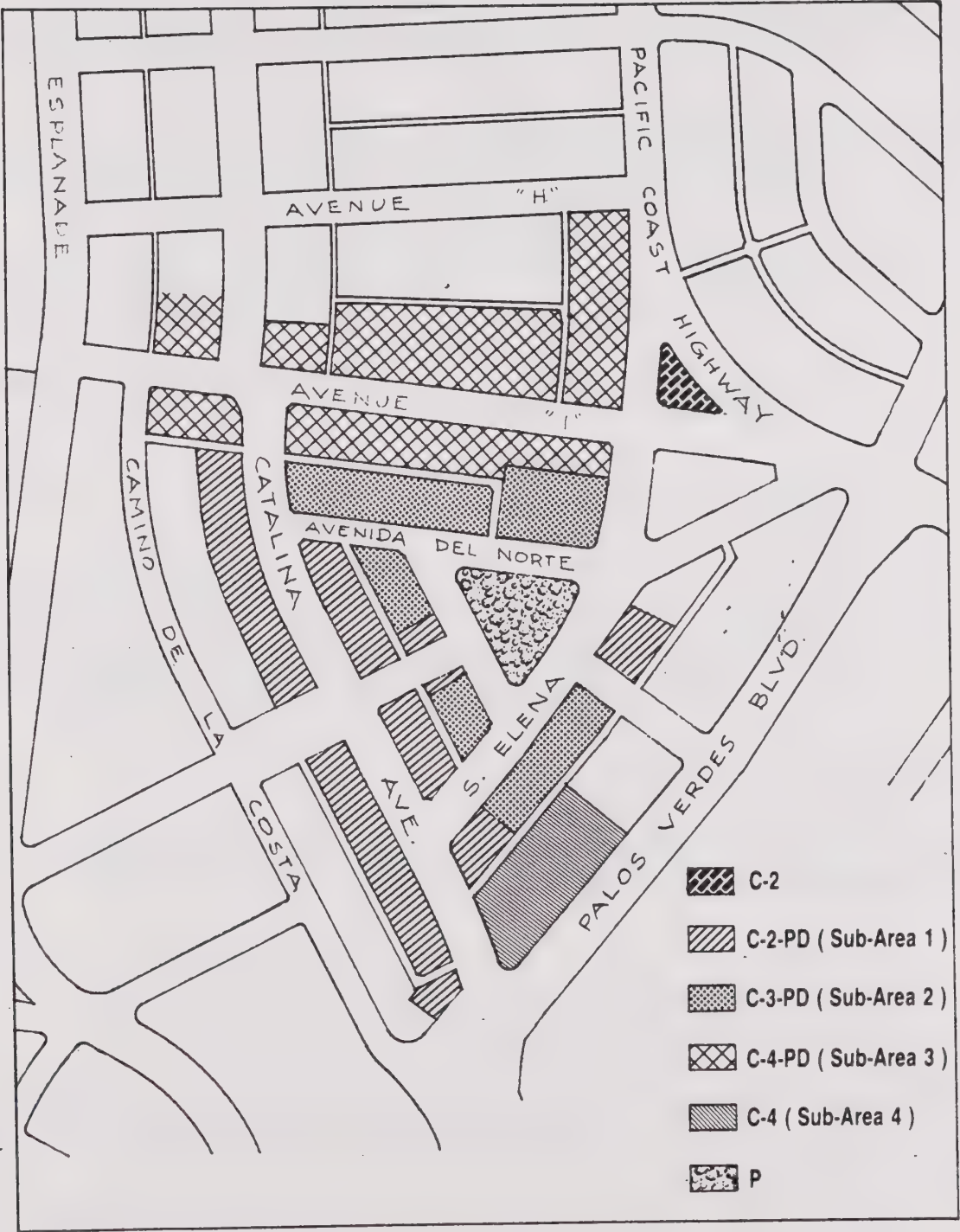
Riviera Village has long been one of Redondo Beach's most attractive and desirable commercial areas. Its orientation around a central square; its collection of small shops, restaurants, and offices; and its low-rise buildings with sidewalk frontage all serve to create a "village" character. The intent of the General Plan is to preserve and enhance the character of Riviera Village by reinforcing the existing scale of development and style of design.

Despite its overall village character, portions of Riviera Village do feature differences in orientation and intensity of development. To account for these differences, Riviera Village has been divided into four sub-areas. This will help assure that the existing mix of uses and development that make Riviera Village an appealing area will continue to be maintained in the future.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.32 Provide for the maintenance of the Riviera Village as a low-density, local-serving commercial district of the City, which is identifiable as a distinct "village-like" environment characterized by a high level of pedestrian activity.

Riviera Village



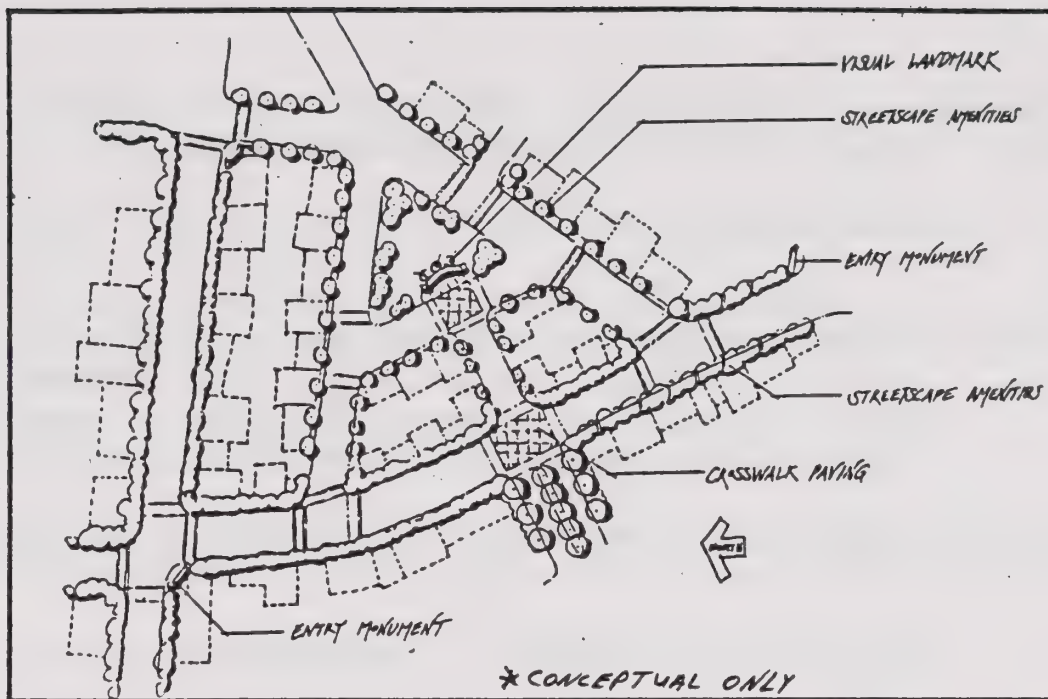
Policies It shall be the policy of the City of Redondo Beach to:

Function and Permitted Uses

- 1.32.1 Accommodate land uses and provide for a physical form and scale of development which differentiates Riviera Village into the following sub-areas:
- a. maintenance of the Catalina Avenue frontage as the primary pedestrian-oriented and scaled "core" of the village, containing commercial, restaurant, and related uses and development;
 - b. development of the Avenida del Norte and South Elena Avenue frontages for pedestrian-oriented and community-serving uses;
 - c. development of Avenue I for a higher intensity of community-serving commercial activity; and
 - d. development of the Palos Verdes Boulevard frontage for community- and highway-oriented commercial uses (II.1).
- 1.32.2 Allow for the development of expanded parking facilities on the site bounded by Via del Prado, Avenida del Norte, and South Elena Avenue, provided that all additional parking is located in a fully subterranean structure which is prioritized for use by local employees, provides controlled access, and limits the hours of operation (II.1, II.16).

Design and Development

- 1.32.3 Implement a program of public signage which uniquely identifies the entries to Riviera Village and key internal locations (II.17).
- 1.32.4 Implement streetscape improvements along the sidewalks including, but not limited to the use of decorative/aesthetic materials and colors for crosswalks and/or sidewalks, distinctive public signage, street trees, street furniture, and similar elements (II.17).
- 1.32.5 Maintain and enhance the kiosk at the intersection of Catalina Avenue and Vista del Mar as a landmark of Riviera Village (II.17).
- 1.32.6 Require that any subterranean parking structure developed on the existing parking lot incorporate amenities at its grade elevation which establish the character and function of a public place, including, but not limited to, landscape (groundcover, shrubs, and trees), street furniture, pedestrian-scaled lighting, attractive paving, and other pedestrian-oriented amenities (II.17, II.18).



- 1.32.7 Require that renovation and adaptive reuse of existing structures and new construction respect the general design and bulk of existing structures (I1.1, I1.7, I1.18).
- 1.32.8 Require that development be designed to convey a "village" character in accordance with Policy 1.21.7 (I1.1, I1.7, I1.18).
- 1.32.9 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I1.1, I1.10, I1.18).

Sub-Area 1: Village Core-Catalina Avenue Frontages

The village character of Riviera Village is most pronounced along Catalina Avenue. With a virtually continuous line of shops along the sidewalk and diagonal street parking, Catalina Avenue reflects the character of a small town "Main Street." Intensity in this area, designated "C-2-PD," is kept modest (0.5 maximum floor area ratio), pedestrian-oriented design is required, and sidewalk activity (including outdoor dining) is encouraged.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.33 Maintain the Catalina Avenue frontage as the primary pedestrian-oriented "core" of Riviera Village.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.33.1 Accommodate the development of pedestrian-oriented community- and neighborhood-oriented commercial uses in accordance with Policies 1.16.1 and 1.17.2, except food sales and uses which require large scale and volume buildings and are incompatible with the intended "village" character of Riviera Village on parcels designated as "C-2-PD" (I1.1).
- 1.33.2 Encourage the development of outdoor dining and other sidewalk-oriented uses (I1.1).

Density/Intensity and Height

- 1.33.3 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) (I1.1).

Design and Development

- 1.33.4 Require that buildings be sited and designed to enhance pedestrian activity along the sidewalks, in accordance with Policy 1.17.5 (I1.1, I1.18).

Sub-Area 2: Secondary Corridors-Avenida del Norte and South Elena Avenue

This area, designated "C-3-PD," is situated around the central parking area and shares many of the same characteristics as Catalina Avenue. Development, however, is somewhat more intense with a greater number of two-story buildings. Consequently, a slightly higher floor area ratio of 0.7 has been assigned to this area.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.34 Maintain Avenida del Norte and South Elena Avenue as pedestrian-oriented commercial corridors which reflect and are linked and compatible with the primary Village "core."

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.34.1 Accommodate the development of pedestrian-oriented community- and neighborhood-oriented commercial uses in accordance with Policies 1.16.1 and 1.17.2, except uses which require large scale and volume

buildings and are incompatible with the intended "village" character of Riviera Village on parcels designated as "C-3-PD" (I1.1).

1.34.2 Encourage the development of outdoor dining and other sidewalk-oriented uses (I1.1).

1.34.3 Allow for the development of professional offices along the street frontage (I1.1).

Density/Intensity and Height

1.34.4 Permit development to a maximum intensity of a floor area ratio of 0.7 and height of two (2) stories (30 feet) (I1.1).

Design and Development

1.34.5 Require that buildings be sited and designed to enhance pedestrian activity along the sidewalks, in accordance with Policy 1.17.5 (I1.1, I1.18).

Sub-Area 3: Peripheral Frontage-Avenue I

This area, designated "C-4-PD," also possesses a pedestrian orientation with buildings situated along the sidewalk. The primary distinction of this area is that it supports a number of multi-story office buildings. In recognition of this higher intensity of development, the maximum floor area ratio has been established at 1.0.

Objective It shall be the objective of the City of Redondo Beach to:

1.35 Maintain Avenue I as a pedestrian-oriented commercial corridor which reflects and is linked to and compatible with the primary Village "core."

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

1.35.1 Accommodate the development of pedestrian-oriented community- and neighborhood-oriented commercial uses in accordance with Policies 1.16.1 and 1.17.2, except uses which require large scale and volume buildings and are incompatible with the intended "village" character of Riviera Village on parcels designated as "C-4-PD" (I1.1).

1.35.2 Encourage the development of outdoor dining and other sidewalk-oriented uses (I1.1).

1.35.3 Allow for the development of professional offices along the street frontage (I1.1).

Density/Intensity and Height

- 1.35.4 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of three (3) stories (45 feet) (I1.1).

Design and Development

- 1.35.5 Require that buildings be sited and designed to enhance pedestrian activity along the sidewalks, in accordance with Policy 1.17.5 (I1.1, I1.18).
- 1.35.6 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I1.1).

Sub-Area 4: Peripheral Frontage-Palos Verdes Boulevard

This area, designated "C-4," does not share the same pedestrian-oriented characteristics of other portions of Riviera Village, instead having more of a highway orientation onto Palos Verdes Boulevard. Consequently, the pedestrian-oriented design standards are not applied to this area.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.36 Provide for the development of Palos Verdes Boulevard as a local- and highway-serving commercial corridor.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.36.1 Accommodate retail, professional office, and other community-serving land uses as prescribed in Policy 1.16.1 in areas designated as "C-4" (I1.1).

Density/Intensity and Height

- 1.36.2 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of three (3) stories (45 feet) (I1.1).

Design and Development

- 1.36.3 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (I1.1, I1.18).
- 1.36.4 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I1.1).

NORTH CATALINA AVENUE CORRIDOR

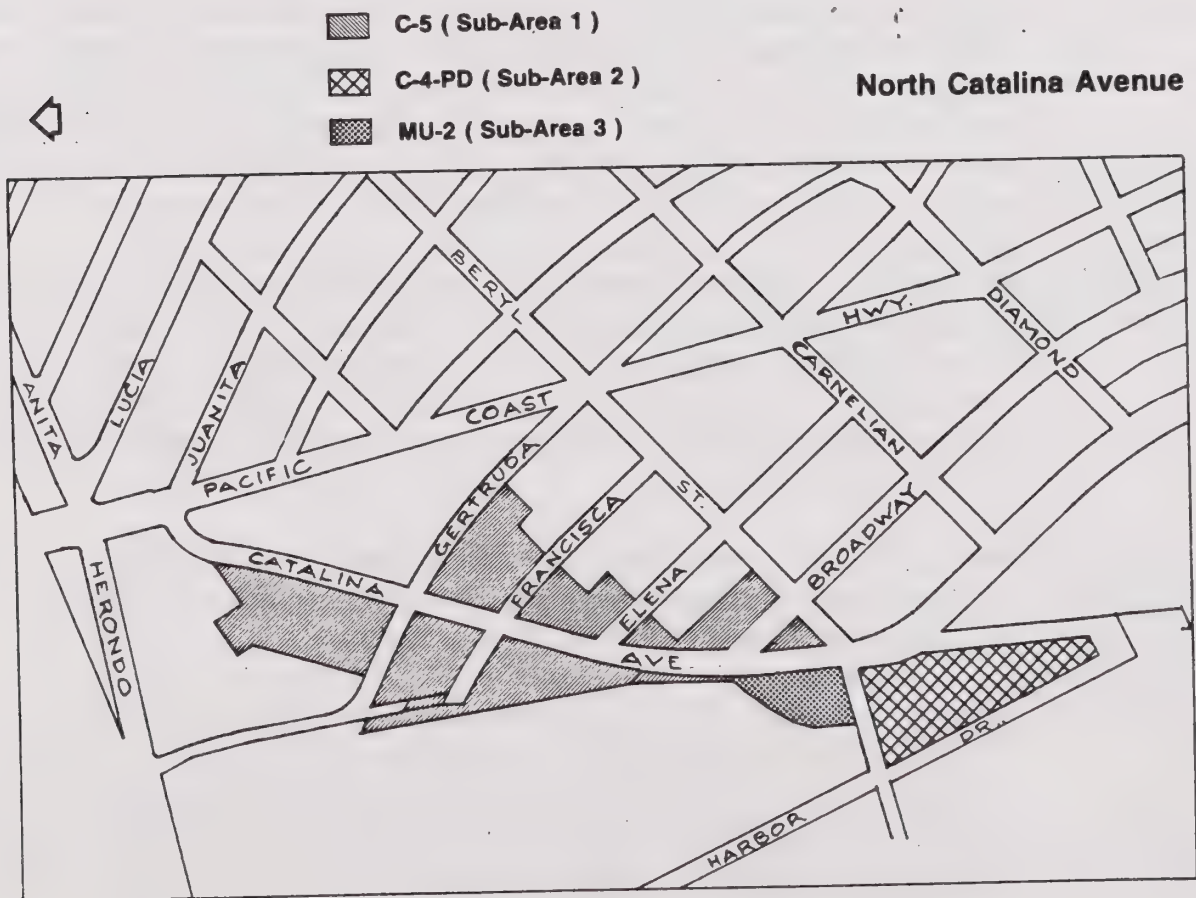
General Corridor

The North Catalina Corridor is an area comprised of a variety of uses in different conditions of repair. It is generally acknowledged that the area is in considerable need of revitalization.

The approach that has been adopted within the General Plan is to provide options for the range and intensity of permitted uses, while also incorporating necessary standards to ensure appropriate development. This approach is intended to provide owners with the flexibility to undertake development projects to improve the area within the short-term future.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.37 Provide for the development of the North Catalina Avenue Corridor as a distinct center of community-oriented and marine-related service commercial and light industrial uses.



Policies It shall be the policy of the City of Redondo Beach to:

Function and Permitted Uses

- 1.37.1 Accommodate land uses and provide for a physical form and scale of development which differentiates the North Catalina Avenue Corridor into the following sub-areas:
- a. development of the Catalina Avenue frontages, between Pacific Coast Highway and Beryl Street, as a community- and marine-oriented services area containing commercial, restaurant, marine-related commerce and services, automobile-related, and similar uses;
 - b. continuation of overnight accommodations on the site of the existing hotel; and
 - c. development of the Salvation Army site for mixed-commercial and residential uses, or residential and community-serving facilities (*I 1.1*).

Design and Development

- 1.37.2 Examine the feasibility of re-routing North Catalina Avenue coincident with the railroad right-of-way from approximately North Broadway Avenue to Herondo Street; concurrently implementing traffic control mechanisms to reduce the speed of traffic (e.g., angled parking, additional signalization or stop signs, widened sidewalks, and limited access to and from Pacific Coast Highway) (*I 1.19*).
- 1.37.3 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (*I 1.1, I 1.10, and I 1.18*).
- 1.37.4 Design and site structures to mitigate the noise, vibration, visual, and other impacts attributable to the Southern California Edison generating facilities and transmission corridors (*I 1.1*).
- 1.37.5 Consider the authorities of California Redevelopment Law as a mechanism to revitalize the parcels along the North Catalina Avenue Corridor, including the possible aggregation and reconfiguration of parcels for higher economic use, pedestrian-oriented mixed-use development projects integrating commercial and residential uses, re-

routing of Catalina Avenue, and improved compatibility with adjacent residential uses (I 1.12).

Sub-Area 1: Pacific Coast Highway to Beryl Street

This is the main portion of the North Catalina Corridor that has been the focus of the concerns stated above. The area has been designated for highway-oriented commercial uses ("C-5"), with the notable addition of light industrial uses permitted to the rear of properties on the west side of Catalina Avenue. Light industrial uses are considered to be acceptable in this location since it abuts the Southern California Edison generating plant. Allowing light industrial uses is intended to provide additional impetus for the redevelopment of properties in the area.

Reference should also be made to the Harbor/Civic Center Specific Plan, Catalina Avenue Sub-Area, Zone 3, which establishes additional standards and policies for this area.

Objectives It shall be the objective of the City of Redondo Beach to:

- 1.38 Develop the Catalina Avenue frontage between Pacific Coast Highway and Beryl Street as the primary community- and marine-oriented "core" of the North Catalina Avenue Corridor.

Policies It shall be the objective of the City of Redondo Beach to:

Permitted Uses

- 1.38.1 Accommodate local-serving retail, personal and business services, professional offices, household supply and furnishings, eating and drinking establishments, drug stores, retail, automobile-related sales, car wash, and similar uses which serve local and regional residents throughout the area on parcels designated as "C-5" (I 1.1).
- 1.38.2 Accommodate automobile and marine related repair on the west side of Catalina Avenue (I 1.1)..
- 1.38.3 Accommodate commercial storage facilities, light industrial uses, boat and recreational vehicle outdoor storage, and wholesale uses to the rear, along the Southern California Edison property, of commercial developments on parcels fronting the west side of North Catalina Avenue, unless infeasible due to parcel configuration or depth (I 1.1).

Density/Intensity and Height

- 1.38.4 Permit development of sites exclusively for commercial and related uses to a maximum intensity of a floor area ratio of 0.7 (I 1.1).

- 1.38.5 Permit the development of those portions of sites devoted to light industrial uses to a maximum intensity of a floor area ratio of 1.0 (11.1).
- 1.38.6 Permit the development of those portions of sites devoted to storage and self-storage facilities to a maximum intensity of a floor area ratio of 1.5 (11.1).
- 1.38.7 Permit structures to be constructed to a height of two (2) stories and thirty (30) feet, except on the west side of Catalina Avenue between Francisca Avenue and Beryl Street, where the height may be allowed to increase to a maximum of three (3) stories and forty-five (45) feet, as measured from datum line, to account for topography (11.1).

Design and Development

- 1.38.8 Require that commercial storage, light industrial, automobile and marine related sales and repair, and wholesale facilities be designed to convey the architectural style of a retail commercial structure and not visually or physically dominate the Catalina Avenue frontage (11.1, 1.18).

Sub-Area 2: Hotel Triangle Site

This is the site of the Holiday Inn Crowne Plaza. The development was completed in 1990 with the assistance of the City Redevelopment Agency at a comparatively high floor area ratio of over 2.0. Since this development should remain over the life of this General Plan, the area has been designated "C-4-PD" with a special maximum floor area ratio of 2.25 to reflect its current use and intensity of development.

Reference should also be made to the Harbor/Civic Center Specific Plan, Catalina Avenue Sub-Area, Zone 6A, which establishes additional standards and policies for this area.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.39 Provide for the retention of existing visitor-serving hotel and related facilities.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.39.1 Accommodate overnight accommodations and ancillary restaurants, gift shops, and other related visitor-serving facilities on parcels designated as "C-4-PD" (11.1).

- 1.39.2 Accommodate pedestrian-oriented community and neighborhood-oriented commercial uses in accordance with Policies 1.16.1, 1.17.2, and 1.17.3, except food sales and uses which require large scale and volume buildings and are incompatible with the intended "village" character of the North Catalina Avenue Corridor (I1.1).

Density/Intensity and Height

- 1.39.3 Permit development to a maximum intensity of a floor area ratio of 2.25 and height of five stories (75 feet) (I1.1).

Design and Development

- 1.39.4 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I1.1).

Sub-Area 3: Salvation Army Site

This site has long housed the local operations of the Salvation Army. The Salvation Army is currently undertaking a complete reconstruction of the site with a new chapel, offices, operational facilities, and senior apartment units. Since these new facilities will continue to remain for an extended time frame, the area has been designated "MU-2" to reflect its use by the Salvation Army.

Reference should also be made to the Harbor/Civic Center Specific Plan, Catalina Avenue Sub-Area, Zone 6C, which establishes additional standards and policies for this area.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.40 Provide for the continued use for residential and community-serving facilities or reuse for pedestrian-oriented local-serving commercial as a continuation of the North Catalina Avenue Corridor "village."

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.40.1 Accommodate residential and community-serving facilities on parcels designated as "MU-2" (I1.1).
- 1.40.2 Accommodate pedestrian-oriented community and neighborhood-oriented commercial uses in accordance with Policies 1.16.1, 1.17.2, and 1.17.3, except food sales and uses which require large scale and volume buildings and are incompatible with the intended "village" character of the North Catalina Avenue Corridor (I1.1).

- 1.40.3 Accommodate residential uses, integrated with commercial development, in accordance with Policy 1.18.2 (I1.1).

Density/Intensity and Height

- 1.40.4 Permit the development of residential and community-serving facilities to a maximum density of 35 units per net acre and height of three (3) stories (45 feet) (I1.1).
- 1.40.5 Permit development of sites exclusively for commercial uses to a maximum intensity of a floor area ratio of 0.7 and height of two stories (30 feet) (I1.1).
- 1.40.6 Permit the development of mixed-use structures integrating residential with commercial uses to a maximum intensity of a floor area ratio of 1.5 and three stories (45 feet), providing that:
- a. all floor area exceeding the ratio of 0.7 is developed for residential units;
 - b. the maximum residential density does not exceed 35 units per net acre; and
 - c. a minimum floor area ratio of 0.3 is developed for commercial uses (I1.1).

Design and Development

- 1.40.7 Require that residential facilities be designed and sited to convey a high quality character and image in accordance with Policies 1.18.11 and 1.18.12 (I1.1, I1.18).
- 1.40.8 Require that commercial and mixed-use structures be designed to promote pedestrian activity in accordance with Policy 1.17.5 (I1.1, I1.18).
- 1.40.9 Require that mixed-use structures be designed to mitigate potential conflicts in accordance with Policy 1.18.8 (I1.1, I1.18).
- 1.40.10 Require that building elevations above the second floor be set back in accordance with Policy 1.16.3 (I1.1).

GALLERIA AT SOUTH BAY

In addition to the Galleria shopping mall, this area includes the commercial businesses extending southward to 182nd Street, as well as the Levitz Furniture Store on the west side of Kingsdale Avenue. As a whole, this area represents the largest single concentration of commercial land in Redondo Beach, and is also unique in its regional orientation.

The Galleria has made a very positive contribution to the economic development of the surrounding area, and the mall will continue to serve as the linchpin for future development of the area. The anticipated construction of a passenger station for the future extension of the Metro Green Line in this area will further enhance its prominence as a regionally-oriented center.

In light of the area's key economic-development potential, it has been designated "CR," with a maximum floor area ratio of 1.0. Policies have also been adopted requiring special attention to the design of new development to ensure proper massing relationships, pedestrian circulation and connections, linkages between developments, and integration with transit facilities.

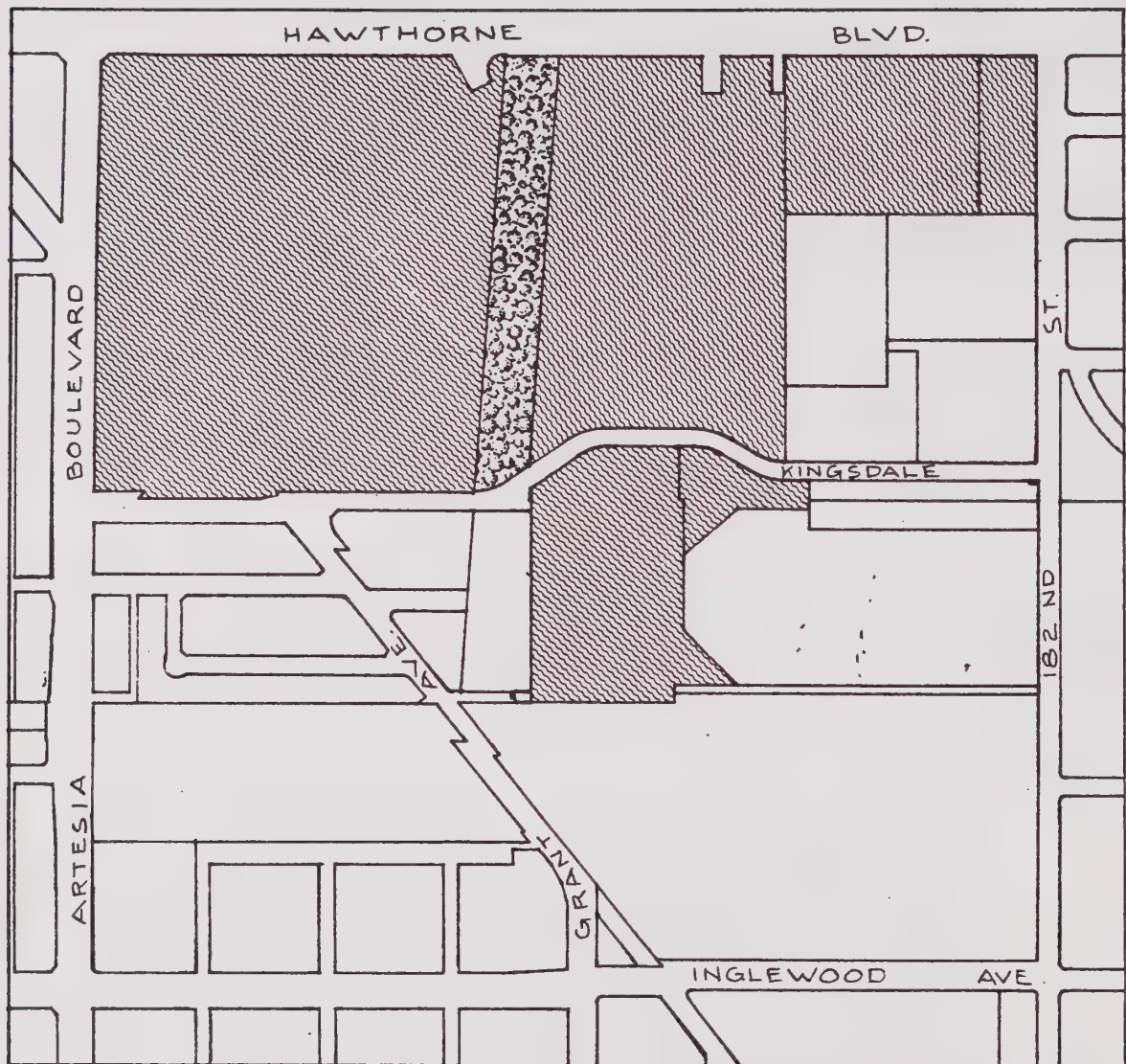
Policies have also been included to allow for mixed use development to provide another option for the future redevelopment of the areas south of the shopping mall. The area is considered to be a good potential location for properly integrated multiple-family units because of its proximity to transit, shopping, and services.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.41 Provide for the continued use of the Galleria at South Bay and surrounding properties as a primary center of regional-serving commercial uses, and provide for the development of mixed-use projects integrating residential with commercial uses; allowing for increases in development which enhance its economic vitality and contribute revenue to the City and improve its character as a pedestrian-oriented activity center, while minimizing impacts on adjacent streets and residential neighborhoods.



Galleria at South Bay



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.41.1 Accommodate the development of regional-serving retail commercial and ancillary uses, promotional/discount retail ("power centers"), restaurants, professional offices, furniture, household and garden supplies, and similar uses in areas designated as "CR" (11.1).

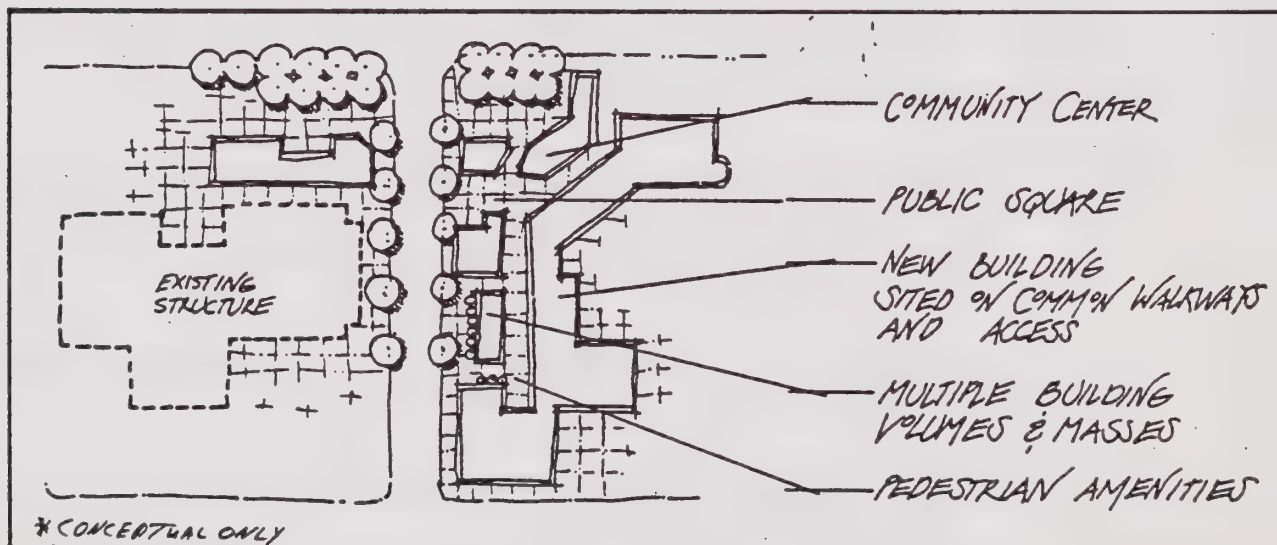
- 1.41.2 Accommodate residential uses on the second floor or higher of structures developed with commercial uses on the lower levels on parcels designated as "CR"(11.1).

Density/Intensity and Height

- 1.41.3 Permit development exclusively for commercial uses to a maximum intensity of a floor area ratio of 1.0 and a maximum height of 60 feet provided that:
- a. additional development is sited and designed to achieve the character of a pedestrian-oriented "urban center," in accordance with the Design and Development standards stipulated in Policies 1.41.5 through 1.41.9;
 - b. transportation capital improvements, public transit, and demand management programs are implemented which mitigate the impacts of vehicular trips attributable to the increased development potential; and
 - c. buffers and other mitigating elements are implemented which protect adjacent residential neighborhoods (11.1, 11.5, 11.6, 11.8, 11.9, 11.10, 11.18).
- 1.41.4 Permit the development of mixed-use structures integrating residential with commercial to a maximum intensity of a floor area ratio of 1.5 (applicable only to those portions of the site devoted to mixed-use) and a maximum height of 60 feet, providing that:
- a. all floor area exceeding the ratio of 1.0 is developed for residential units;
 - b. the maximum residential density for "market-rate" units does not exceed 35 units per acre;
 - c. residential densities exceeding 35 units per net acre shall be developed for units affordable for low- and moderate-income households; and
 - d. a minimum floor area ratio of 0.3 is developed for commercial uses. (11.1).

Design and Development

- 1.41.5 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I 1.1, I 1.10, and I 1.18).
- 1.41.6 Require that new development of the South Bay Galleria and adjacent sites be designed to convey the "sense" of a pedestrian-oriented regional-serving urban center, in accordance with the standards contained in Policy 1.21.7 (except reference to a low-rise "village") and the following additional elements:
- reduce the impacts of height and mass by setting back and lessening the volume of the upper elevations of structures within 50 feet of the property line fronting Kingsdale Avenue; and
 - locate new development to create visual and physical connections to peripheral sidewalks, sites, and buildings (I 1.1, I 1.10, I 1.18).



- 1.41.7 Integrate public transit facilities on the site and ensure that they are accessible by automobile, bicycle, and walking from peripheral residential neighborhoods (I 1.1, I 1.18).
- 1.41.8 Develop and implement programs of public streetscape improvements (landscape, street furniture, signage, pedestrian-scale lighting, etc.) which uniquely identify the regional commercial center and provide linkages

among the individual parcels, including those south of the Southern California Edison right-of-way (I1.17).

- 1.41.9 Require that mixed-use structures be designed to mitigate potential conflicts in accordance with Policy 1.18.8 (I1.1, I1.7, I1.18).

OTHER HIGHWAY- AND COMMUNITY- COMMERCIAL CLUSTERS

In addition to the extended corridors and larger clusters, there are also a number of other smaller, isolated commercial areas. These centers may be only a single store or two, or may be small neighborhood shopping centers. These centers typically provide necessary and convenient services to the surrounding area. Some example locations include the northwest and southwest corners of Manhattan Beach Boulevard and Inglewood Avenue, the northeast and northwest corners of 190th Street and Inglewood Avenue, and the southwest corner of Beryl and Prospect Avenues.

Given the multiple locations and smaller sizes of these centers, they are addressed here under one heading. Since they vary in their characteristics, however, these areas have been designated "C-1," "C-2," "C-3," and "C-4," with maximum floor area ratios ranging from 0.35 to 1.0. The basic objective is to allow these centers to continue to serve the community in their current capacity, while assuring proper design and compatibility.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.42 Provide for the development of highway- and community-serving retail and service commercial and gasoline stations in clusters at principal intersections throughout the City.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.42.1 Accommodate retail and service commercial, professional offices, and similar uses as prescribed in Policy 1.16.1 and automobile-related service and fuel facilities in areas designated as "C-2" and "C-4" (I1.1).
- 1.42.2 Accommodate the uses permitted in "C-2" zones, except entertainment, movie theaters, and overnight accommodations, in areas designated as "C-1" (I1.1).

Density/Intensity and Height

- 1.42.3 Permit development to a maximum intensity of a floor area ratio of 0.35 and height of two (2) stories (30 feet) in areas designated as "C-1" (I1.1).

- 1.42.4 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) in areas designated as "C-2" (II.1).
- 1.42.5 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of three (3) stories (45 feet) in areas designated as "C-4" (II.1).

Design and Development

- 1.42.6 Require that extensive landscaping be incorporated along the sidewalk frontage in accordance with Policies 1.19.3 and 1.19.4 (II.1).

INDUSTRIAL DEVELOPMENT

Industrial development in Redondo Beach is somewhat limited in its area and scale. The one major industrial area is the extreme northerly end of the City north of Manhattan Beach Boulevard. Anchored by the large TRW Space Park complex, the prevailing emphasis of this area is on high tech industries within an industrial park type of setting. With the current reduction in the aerospace industry, however, there is an emerging trend to diversify the variety of uses within industrial areas.

The emphasis for the northerly industrial area, designated "I-1," is to continue the same type of development, stressing larger scale "campus-park" type of developments. Uses different from, but compatible with traditional industrial uses are being introduced to the area. These include warehouse retail uses, ancillary commercial uses, and amusement centers. This is also the area of the City where relatively tall buildings (up to 110 feet in height) are permitted; however, these higher heights may only be achieved at a considerable distance from the major surrounding streets.

There are also three other smaller areas designated for industrial development within the City. These areas, designated "I-2," have been assigned a higher floor area ratio of 1.0 primarily because fragmented land ownership has prevented the establishment of larger sites needed for the "campus-park" type of development advocated for the northerly industrial area.

Reference should also be made to the Harbor/Civic Center Specific Plan, Catalina Avenue Sub-Area, Zone 4, which establishes additional standards and policies for one segment of the "I-2" area.

Goal It shall be the goal of the City of Redondo Beach to:

- II Continue and enhance existing industrial districts which provide jobs to the residents of Redondo Beach and adjacent communities, are uniquely characterized by their functional role, uses, intensity, and physical form, and are compatible with adjacent residential neighborhoods.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.43 Retain, enhance, and intensify existing industrial districts of the City, maintaining their environmental quality and compatibility with adjacent residential neighborhoods and commercial districts.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.43.1 Accommodate light manufacturing, research and development, spacecraft manufacturing and associated aerospace operations, business park offices, warehouse retail uses, service stations, amusement centers (located within 500 feet of a freeway), educational and governmental facilities, and day care facilities (I1.1).
- 1.43.2 Accommodate retail and service uses which are ancillary and supporting to the primary industrial and business park uses (e.g., restaurants, banks, photocopies, and similar uses) (I1.1).

Density/Intensity and Height

- 1.43.3 Permit development to a maximum intensity of a floor area ratio of 0.7 in areas designated as "I-1," with the exception that within the area bounded by Marine Avenue, Freeman Boulevard, Manhattan Beach Boulevard, Doolittle Drive, Space Park Drive, and Aviation Boulevard, the floor area ratio may be increased to a maximum of 1.0 on individual parcels subject to the approval of a development agreement containing provisions with the effect of limiting the cumulative floor area ratio on all affected parcels to a maximum of 0.7. Permit a maximum height of 110 feet, with the exception that height shall be limited to one (1) foot of height for each two (2) feet of property depth as measured from property lines of frontages along Marine Avenue, Inglewood Boulevard, Manhattan Beach Boulevard, and Aviation Boulevard in areas designated as "I-1" (I1.1).
- 1.43.4 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of two (2) stories (30 feet) in areas designated as "I-2," except that antennae for public utilities and antennae for public uses shall not be subject to this height standard (I1.1).

Design and Development

- 1.43.5 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+),

site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (*I 1.1, I 1.10, I 1.18*).

- 1.43.6 Require that sites and buildings in the I-1 Industrial zone be designed to convey a “campus-park” setting, including:
- a. siting of buildings around common pedestrian walkways and public places (plazas, outdoor dining, and other);
 - b. development of pedestrian walkways, arcades, and/or other visual elements to interconnect individual buildings;
 - c. use of common architectural design vocabulary (materials, colors, design character, etc.);
 - d. use of extensive landscape in open spaces and parking lots, including broad landscaped setbacks from principal peripheral streets;
 - e. location of parking to minimize views from principal peripheral streets;
 - f. use of consistent and well-designed public and informational signage; and
 - g. installation of elements defining the key entry points and activity locations (*I 1.1, I 1.10, I 1.18*).
- 1.43.7 Require that structures and sites be designed to convey visual interest and character and be compatible with adjacent uses, including:
- a. differentiation of building facades by materials, color, architectural details (columns, recessed or projecting windows, articulated beams or spandrels, etc.), offset planar surfaces, and modulated building volumes;
 - b. architectural treatment of all building elevations;
 - c. enclosure of storage areas with decorative screening or walls;
 - d. location of site entries to minimize conflicts with adjacent residential neighborhoods; and
 - e. mitigation of noise, odor, lighting, and other impacts (*I 1.1, I 1.10, I 1.18*).

COASTAL-RELATED COMMERCIAL DEVELOPMENT

The Coastal-Related Commercial ("CC") designation applies to areas of the Redondo Beach Pier and the King Harbor Marina. The Pier and Harbor are probably Redondo Beach's best known and most special attractions. Much of the Pier was destroyed by fire and storm damage in 1988, and is in the process of being rebuilt under a special nautical design theme. The Harbor continues to be a valuable facility for local boaters, and also supports a variety of commercial businesses that benefit from and enhance the marina setting.

It is the intent for the Coastal-Related Commercial areas to maintain the same basic low-intensity scale of development while providing an opportunity for future development.

Within the harbor area, establishing development limits is complicated by the fact that the land is divided into leaseholds of varying sizes supporting different levels of development. To equitably account for this, a cumulative floor area ratio of 0.35 has been established for the entirety of the leasehold areas.

Since the Harbor/Pier area is a major local attraction and area of activity, another major issue is assuring a very high quality of development and design. For both the Pier and Harbor areas, policies have been adopted requiring quality design that also enhances the area's seaside location.

Reference should also be made to the Harbor/Civic Center Specific Plan, Harbor/Pier Sub-Area, which establishes additional standards and policies for this area.

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1J Provide for the continued use of the City's coastal-related recreational facilities as resources for the residents of Redondo Beach and surrounding communities; ensuring that these uses and activities are compatible with adjacent residential neighborhoods and commercial districts and maintain a high level of quality and safety.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.44 Maintain the Redondo Beach Pier and supporting commercial, restaurant, entertainment, and other coastal-related uses as a recreational resource and amenity of the City.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.44.1 Accommodate recreational and marine facilities and uses (fishing, surfing, boating, swimming, etc.), restaurants, entertainment, gift shops, and other coastal-related uses in areas designated as "CC" (I1.1, I1.3).

Density/Intensity and Height

- 1.44.2 Permit development in accordance with the intensity limitations prescribed for the rebuilding of the Pier, or as modified by the City Council with public input to maintain adequate revenue and quality of use (I1.1, I1.3, I1.14).

Design and Development

- 1.44.3 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I 1.1, I 1.10, I1.18).

- 1.44.4 Require that structures be designed at a uniform and high level of architectural design quality which reflects the unique setting of the pier on the coastline and enhances pedestrian-activity, including:

- a. visual and physical transparency along building exteriors;
- b. well-defined entries;
- c. variable rooflines and building heights;
- d. pronounced rooflines; and
- e. inclusion of pedestrian-oriented projecting signs (I1.1, I1.3, I1.14, I1.18).

- 1.44.5 Require that signage be integrated in style, materials, and placement with the design of the structures; minimizing their number and size (I1.1, I 1.3, I1.14, I1.18).

- 1.44.6 Provide a consistent and well-designed system of public signage, identifying entries and key activity locations and uses (I1.3, I1.14, I1.17).

- 1.44.7 Install pedestrian-oriented and scaled amenities, including benches, lighting, landscape, and similar elements (I1.3, I1.14, I1.17).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.45 Maintain King Harbor and supporting commercial, restaurant, entertainment, and other coastal-related uses as a recreational resource and amenity of the City.

Policies It shall be the policy of the City of Redondo Beach to:

Permitted Uses

- 1.45.1 Accommodate recreational and marine facilities and uses (boat slips and anchorages, fishing, surfing, boating, swimming, public boat launching ramps, etc.), hotels, restaurants, entertainment, gift shops, and other coastal-related uses in areas designated as "CC" (I1.1, I1.3, I1.13).
- 1.45.2 Allow the continuation and maintenance of existing residential structures (I1.1, I1.3, I1.13).

Density/Intensity and Height

- 1.45.3 Permit cumulative development on parcels within the Harbor area (excluding the Municipal Pier facility only) to a maximum floor to area ratio of 0.35. The future intensity of new development which may be allowed to occur on individual parcels or master lease areas within the area will be determined on a case-by-case review basis, through the established public review process, as individual proposals are received (I 1.1, I1.3, I1.13).
- 1.45.4 Harbor development proposals shall be reviewed and considered relative to their individual parcel size, configuration, and location, as well as their compatibility with adjacent uses and their ability to attain and fulfill the urban and architectural design objectives specified in Policies 1.45.5 to 1.45.11 of the General Plan (I1.1, I1.3, I 1.13).

Design and Development

- 1.45.5 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I 1.1, I 1.10, I1.18).

- 1.45.6 Encourage and provide incentives for the reconfiguration of parcels and development to create a unified seaside "village," siting buildings adjacent to one another and orienting them along common pedestrian promenades and public plazas (*I1.1, I1.3, I1.5, I1.6, I1.13*).
- 1.45.7 Require that commercial structures be designed at a uniform and high level of architectural design quality which reflects the unique setting of the Harbor on the coastline (*I1.1, I1.3, I1.10, I1.13, I1.18*).
- 1.45.8 Require that signage be integrated in style, materials, and placement with the design of the structures; minimizing their number and size (*I1.1, I1.3, I1.10, I1.13, I1.18*).
- 1.45.9 Provide a consistent and well-designed system of public informational signage for the harbor, identifying entries and key activity locations and uses (*I1.13, I1.17*).
- 1.45.10 Install pedestrian-oriented and scaled amenities, including benches, street and pedestrian lighting, landscape, and similar elements (*I1.13, I1.17*).
- 1.45.11 Install additional street trees and landscape along the Harbor Drive frontage and in parking lots (*I1.13, I1.17*).

PUBLIC AND INSTITUTIONAL USES

The Public and Institutional ("P") designation is comprised of lands that are owned by public agencies, special use districts, and public utilities. Although this designation encompasses a range of different public and quasi-public uses, they share a common thread in that these uses do not fit well under the typical standards for residential, commercial, or industrial uses.

Since this designation includes a variety of uses with a variety of characteristics, no attempt has been made to establish specific development standards within the General Plan. The Zoning Ordinance, however, will implement the Public/Institutional designation through multiple zoning districts more focused on the different classes of public/quasi-public uses. These zones will also contain more specific development standards.

Reference should also be made to the Harbor/Civic Center Specific Plan, Civic Center Sub-Area; Harbor/Pier Sub-Area, Zone 1; and Catalina Avenue Sub-Area, Zones 1 and 2, which establishes additional standards and policies for certain areas designated as "P."

Goal *It shall be the goal of the City of Redondo Beach to:*

1K Provide for public uses which support the needs and functions of the residents and businesses of the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.46 Provide for the continuation of existing and expansion of governmental administrative and capital, recreation, public safety, human service, cultural and educational, infrastructure, and other public land uses and facilities to support the existing and future population and development of the City.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

1.46.1 Accommodate governmental administrative and maintenance facilities, parks and recreation, public open space, police, fire, educational (schools), cultural (libraries, museums, performing and visual arts, etc.), human health, human services, public utility and infrastructure (transmission corridors, etc.), public and private secondary uses, and other public uses in areas designated as "P" (I1.1).

1.46.2 Allow for the reuse of public and utility properties and facilities for private use (and the reuse of school sites subject to the provisions of California Government Code Section 65852.9), with the type and density/intensity of use to be permitted on the site determined by:

- a. their compatibility with the type, character, and density/intensity of adjacent uses;
- b. objectives for the area defined by the General Plan;
- c. contribution of public benefits (e.g., affordable housing);
- d. revenue contribution to the City; and
- e. formulation and approval of a specific or development plan (I1.5, I1.6, I1.7).

1.46.3 Accommodate religious facilities in residential and commercial areas of the City and in the portion of the industrial zone adjacent to the north side of Manhattan Beach Boulevard, east of Redondo Beach Avenue and provided that they are compatible in function, scale, and character with adjacent uses (I1.1, I1.7).

Design and Development

- 1.46.4 Establish standards for the City and coordinate with other public agencies to ensure that public buildings and sites are designed to be compatible in scale, mass, character, and architecture with the existing buildings and pertinent design characteristics prescribed by this Plan for the district or neighborhood in which they are located (11.18).
- 1.46.5 Require, where the City has jurisdiction, that public sites be designed to incorporate landscaped setbacks, walls, and other appropriate elements to mitigate operational and visual impacts on adjacent land uses (11.18).
- 1.46.6 Monitor the operations of public uses and facilities and periodically review the adequacy of and, as necessary, implement additional impact mitigation measures (11.18).
- 1.46.7 Require that only passive secondary uses of public transmission rights-of-way be permitted (e.g., uses where groups of people are not permitted to congregate).

TARGETED REVITALIZATION SITES

In a few areas of the City that were developed before current zoning patterns were established, the existing uses raise issues of inconsistency with the surrounding area. These areas were the subject of special scrutiny during the formulation of the General Plan to determine the approach that would create the most beneficial and harmonious land use pattern.

Goal It shall be the goal of the City of Redondo Beach to:

- 1L Promote the revitalization and more effective use of properties characterized by economic underutilization or uses and buildings which are incompatible with the district or neighborhood in which they are located.

Ruxton Lane

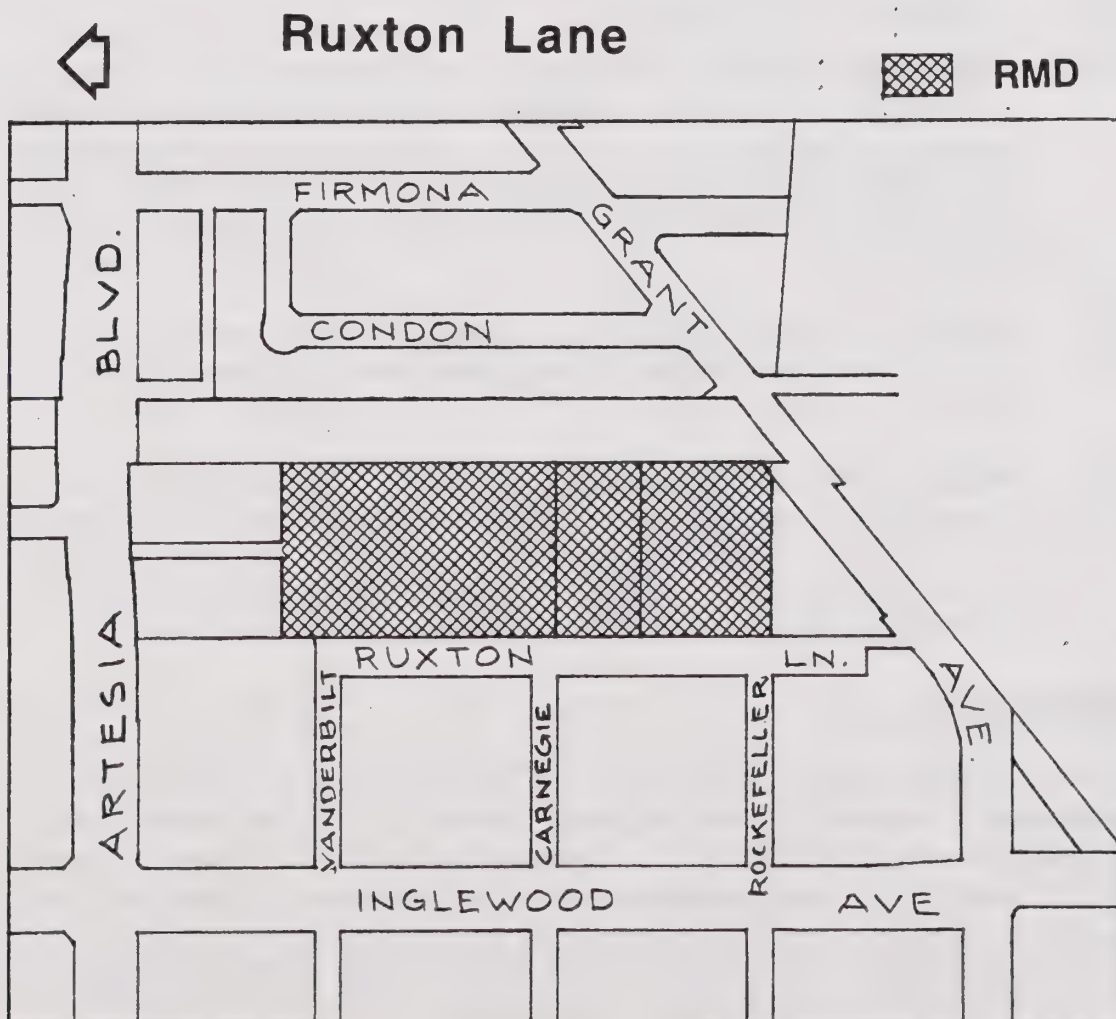
This area of approximately five acres is situated between the Redondo Beach Villa Tract to the west and the Santa Fe Railroad to the east, just south of Artesia Boulevard. Because of its juxtaposition, it became a leftover piece of land. Consequently, it was divided into three large parcels and devoted to light industrial uses. The largest parcel has access to Artesia Boulevard via a "panhandle" strip of property and supports a large warehouse building.

Although the warehouse building is in good condition, the southerly end of the area is in a somewhat deteriorated condition. Combined with the fact that the area adjoins an established residential area across Ruxton Lane, emphasis was placed on establishing a more appropriate and compatible use of this land.

Because of the above, this area has been designated "RMD" Residential Medium Density. Although "RMD" has a normal maximum density of 23.3 units per acre, a special provision has been applied to this area allowing a maximum density of 40 units per acre where low- and moderate-income units are included. This strategy is intended to both create sufficient value in the land to make its redevelopment economically feasible, and to provide a highly needed opportunity area for the development of new low- and moderate-income housing.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.47 Provide for the revitalization and reuse of the Ruxton Lane industrial area for residential development.



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses, Density, and Height

- 1.47.1 Accommodate the development of multi-family residential units in accordance with Policy 1.13.1 in areas designated as "RMD" (I1.1).
- 1.47.2 In excess of development permitted at a maximum density of 23.3 units per net acre pursuant to Policy 1.47.1, accommodate the development of additional multi-family residential units for low and moderate income households, with priority given to senior citizens, at an overall maximum density of 40 units per net acre on parcels of a minimum of 5,000 square feet and height of 45 feet (three stories). Additional density above 23.3 units per net acre (with the exception of density bonuses mandated by state law) up to 40 units per net acre, shall be granted by the City based on consideration of the type and extent of low and moderate income housing to be provided. This policy shall constitute fulfillment of state and city density bonus provisions and no additional density bonus shall be permitted (I1.1).

Design and Development

- 1.47.3 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (I 1.1, I1.10, I1.18).
- 1.47.4 Require that multi-family residential projects be designed to convey a high quality and distinctive neighborhood character, in accordance with Policy 1.13.3 (I1.1, I1.10, I1.18).
- 1.47.5 Require the provision of on-site open space amenities and design of these to be accessible and of sufficient size to be usable by tenants (I1.1).
- 1.47.6 Require that the site and buildings are designed to buffer the impacts of noise and vibration from the abutting railroad (I1.1).

Meyer Lane Area

This area, north of 190th Street and east of Meyer Lane, currently supports a mixture of residential, commercial, and industrial uses that present some special planning considerations. In particular, the existing industrial uses present issues in terms of their compatibility with and intrusion into a surrounding area that is otherwise almost completely residential. Because of this, the primary objectives for this area were to provide for the transition of some of the existing industrial areas to

residential uses, and provide for the improvement and enhancement of the industrial areas that remain.

In attempting to achieve the above objectives, a total of five different land use designations have been applied to six different subareas. A brief discussion of these six subareas follows.

Local-Serving Commercial (190th Street and Mary Ann Drive, "C-2"): This is a long-established pocket of retail commercial uses. These uses are considered to be acceptable and no changes were necessary.

Light Industrial (Mary Ann Drive, "I-2"): North of the commercial businesses at 190th Street, Mary Ann Drive is lined with small light industrial businesses. Although bordered by residential uses on three sides, these businesses have managed to operate without creating undue impacts.

This notwithstanding, there continues to exist concern regarding the appearance and aesthetics of this area. The small area and the industrial nature of the businesses has resulted in some problems with unkept properties. The strategy is to allow the light industrial uses to continue, but to establish policies to encourage physical improvements and upgrading of the appearance of the area. A higher-than-existing floor area ratio of 1.0 was established to encourage redevelopment and consolidation of parcels to a more appropriate scale.

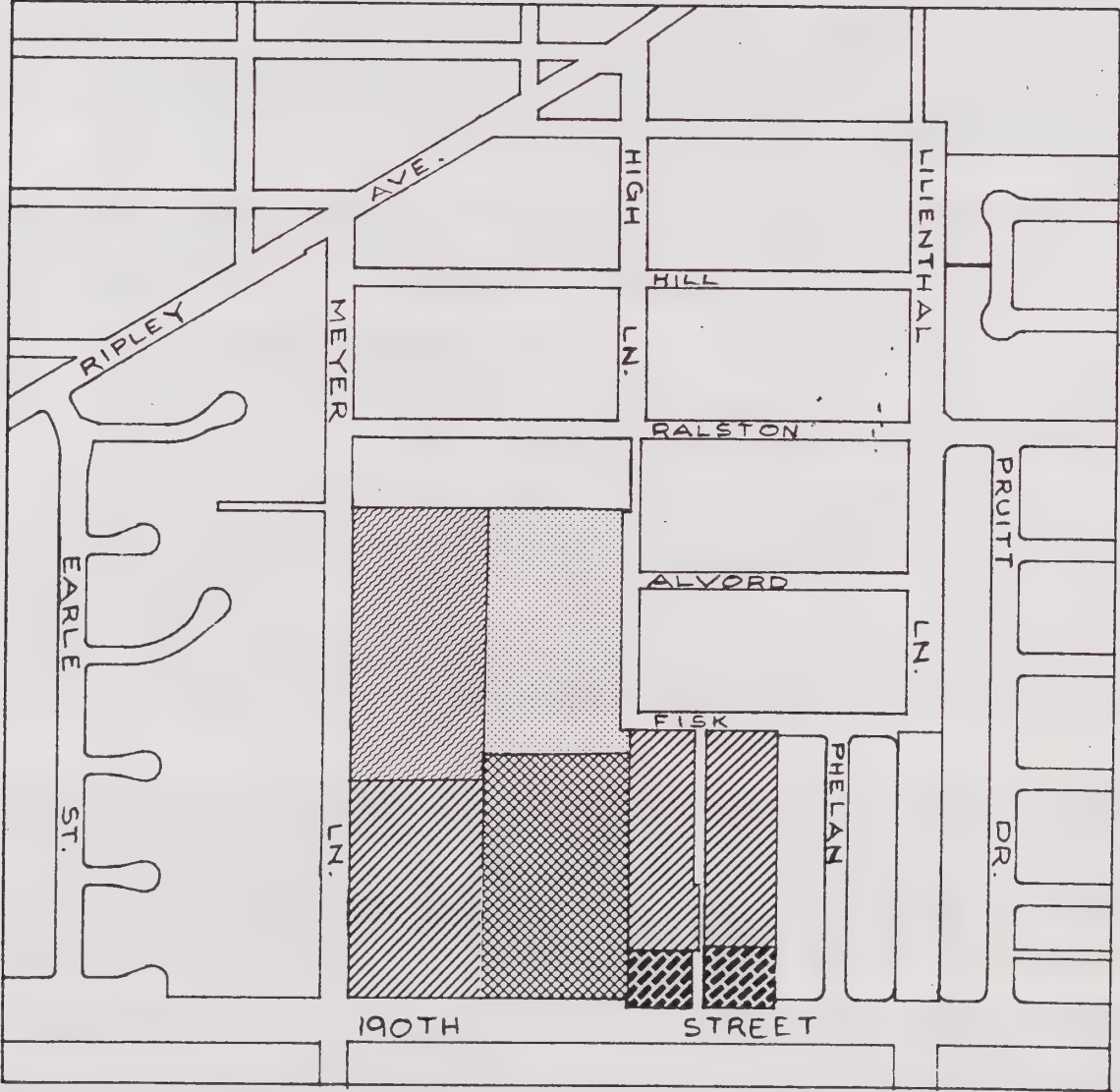
Cresta Trailer Park ("RMD"): Situated in the middle of this area is the only mobile home park in Redondo Beach. The park contains space for 83 mobile homes and is relatively simple in design and amenities. Since it is the only remaining mobile home park, it is considered valuable as a place to accommodate this type of alternative, affordable housing. The park has therefore been redesignated "RMD" Residential Medium Density, with the specific stipulation that the site be continued for use as a mobile home park.

Light Industrial (Meyer Lane, "I-2"): Extending approximately 500 feet northward from 190th Street along Meyer Lane is a group of four building complexes that support a combination of business offices and light industrial uses. These buildings continue to exist in good condition and the uses generally operate without problems. This area was therefore designated to continue for light industrial uses.

Multiple-Family Residential (Meyer Lane, "R-3"): This area includes three multiple-family complexes just south of Ralston Lane, and two light industrial complexes that are being redesignated to residential. The primary reason for the change of the industrial uses is that the buildings in question are in poor condition and incompatible with the surrounding area. In addition, the transition of these properties would help to reinforce the residential character of the surrounding area.

Single-Family Residential (High Lane, "R-1"): Adjacent to the west side of High Lane is a 3.7-acre site currently occupied by a single large manufacturing use (Chic

Lingerie). Since this area is a single site of relatively large size, it would be feasible for it to be redeveloped in the future and remove the conflict of an industrial use adjacent to residential uses on all four sides. The site's isolation from other industrial areas has also diminished its attractiveness for industrial use. Because of these circumstances it was redesignated to "R-1" Single-Family Residential.



Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.48 Provide for the continuation and improved compatibility among existing residential (mobile home park), light industrial, and commercial land uses in the area bounded by 190th Street, Meyer Lane, Ralston Lane, High Lane, Fisk Lane, and Mary Ann Drive; ensuring their compatibility with adjacent residential neighborhoods.

Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses

- 1.48.1 Accommodate light industrial uses as prescribed in Policy 1.43.1 in areas designated as "I-2" (I1.1).
- 1.48.2 Accommodate local- and highway-serving commercial uses as prescribed in Policy 1.16.1 in areas designated as "C-2" (I1.1).
- 1.48.3 Accommodate single-family residential units in areas designated as "R-1" (I1.1).
- 1.48.4 Accommodate low density multi-family residential units in areas designated as "R-3" (I1.1).
- 1.48.5 Accommodate and maintain the existing trailer park in areas designated as "RMD" (I1.1).

Density, Intensity, and Height

- 1.48.6 Permit development to a maximum intensity of a floor area ratio of 1.0 and height of two (2) stories (30 feet) in areas designated as "I-2" (I1.1).
- 1.48.7 Permit development to a maximum intensity of a floor area ratio of 0.5 and height of two (2) stories (30 feet) in areas designated as "C-2" (I1.1).
- 1.48.8 Accommodate residential units at a maximum density of 8.8 units per net acre on parcels of a minimum of 5,000 square feet and height of 30 feet (two stories) in areas designated as "R-1" (I1.1, I1.2).
- 1.48.9 Accommodate the development of residential units at a maximum density of 17.5 units per net acre on parcels of a minimum of 5,000 square feet and height of 30 feet (two stories) in areas designated as "R-3" (I1.1, I1.2).
- 1.48.10 Accommodate mobile home units at a maximum density of 23.3 units per net acre, or as currently exists, in areas designated as "RMD" (I1.1, I1.2).

Design and Development

- 1.48.11 Require that projects be designed and developed to achieve a high level of quality and distinctive character in accordance with the policies which pertain to the use and/or site for architecture (1.53.1+), signage (1.54.1+), site design (1.55.1+), streetscape and public amenity (1.56.1+), interface of differing uses (1.57+), and physical and functional adequacy (1.58+) (*I 1.1, I 1.10, I 1.18*).
- 1.48.12 Require that light industrial uses be developed in accordance with Policy 1.43.7 (*I 1.1, I 1.10, I 1.18*).
- 1.48.13 Encourage the renovation and upgrade of existing industrial buildings and installation of street trees, unified signage, and other aesthetic improvements in common and public areas (*I 1.5, I 1.6, I 1.20*).
- 1.48.14 Require that local- and highway-serving commercial uses be developed in accordance with Policies 1.19.3 and 1.19.4 (*I 1.10, I 1.18*).
- 1.48.15 Require that single-family residential uses be developed in accordance with Policies 1.11.4 through 1.11.7 (*I 1.1, I 1.10, I 1.18*).
- 1.48.16 Require that low density multi-family residential uses be developed in accordance with Policy 1.12.5 (*I 1.1, I 1.10, I 1.18*).
- 1.48.17 Encourage the long-term maintenance and upgrade of the trailer park; including the structural integrity and appearance of the mobile home units, landscape, common open spaces, and recreational amenities (*I 1.20*).
- 1.48.18 Install street trees and other landscape improvements along Meyer Lane and Fisk Lane to improve the compatibility of the light industrial uses with adjacent residential neighborhoods (*I 1.17*).
- 1.48.19 Install street trees along 190th Street which distinctly identifies this corridor, and improves its visual appearance (*I 1.17*).

300 Block of South Catalina Avenue

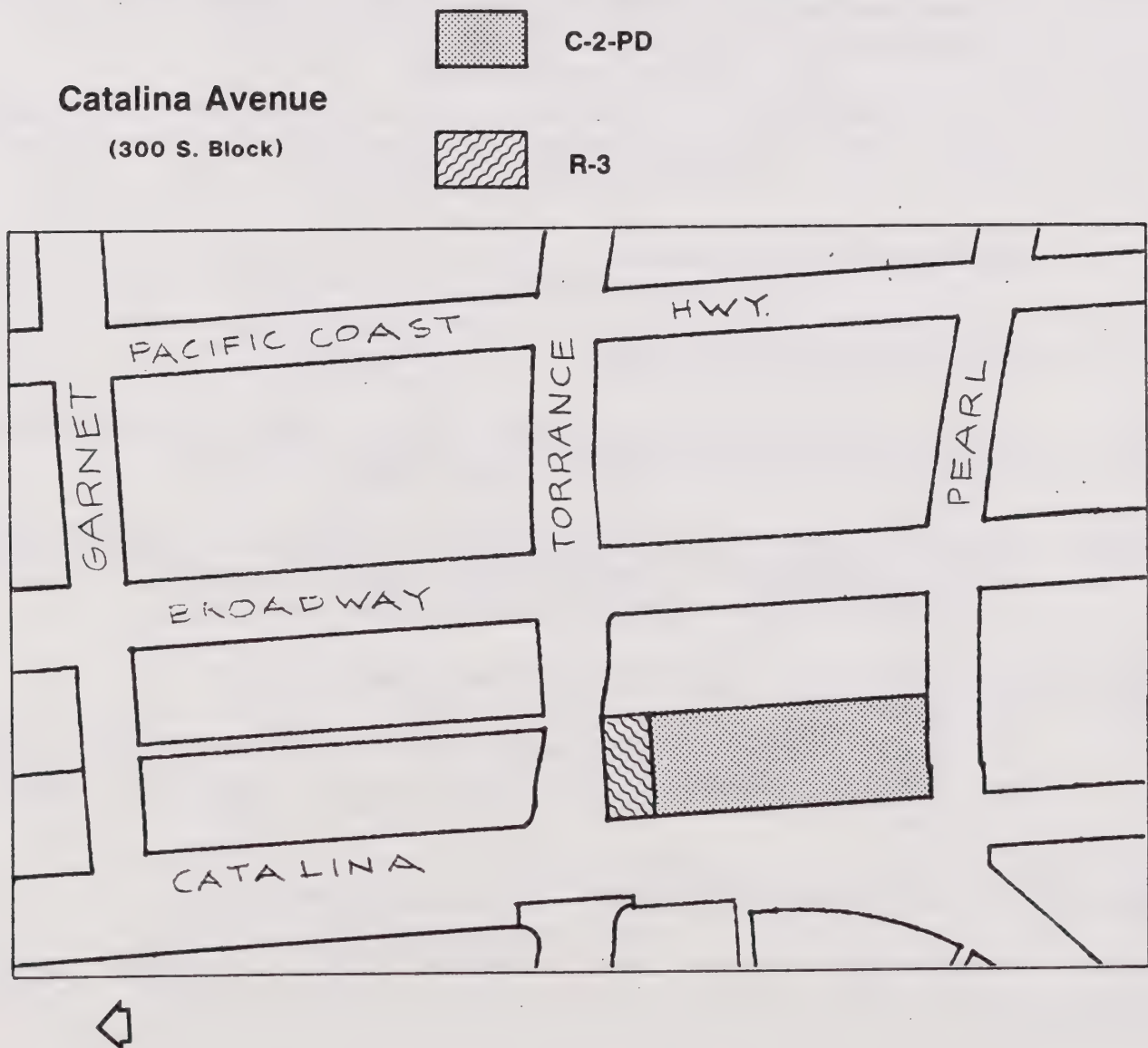
This block, the east side of Catalina Avenue between Torrance Boulevard and Pearl Street, has historically supported retail commercial uses. Long-standing multiple-family residential zoning resulted in only one property (adjacent to Torrance Boulevard) being redeveloped for residential use.

Even though this block is surrounded on three sides by residential development, the existing commercial development is considered to be desirable and

nondisruptive. The continued use and future development of this block for commercial use (with the exception of the residential project adjacent to Torrance Boulevard) is considered preferable to a slow transition to residential use. The block has therefore been designated "C-2-PD," also taking into consideration the existing pedestrian orientation of businesses along the sidewalk frontage.

Objective It shall be the objective of the City of Redondo Beach to:

- 1.49 Provide for the development of multi-family residential units, and local-serving pedestrian-oriented commercial uses on the east side of Catalina Avenue between Torrance Boulevard and Pearl Street.



Policies *It shall be the policy of the City of Redondo Beach to:*

Permitted Uses, Density, and Height

- 1.49.1 Accommodate the development of multi-family residential units in accordance with Policy 1.12.2 in areas designated as "R-3" (I1.1).
- 1.49.2 Accommodate the development of pedestrian-oriented retail, commercial services, professional office, and other related land uses in accordance with Policies 1.16.1 and 1.17.2 on parcels designated as "C-2-PD"(I1.1).

Density/Intensity and Height:

- 1.49.3 Permit development of sites designated as "R3" with residential units to a maximum density of 17.5 units per net acre and height of two stories (30 feet) (I1.1).
- 1.49.4 Permit development of sites designated as "C-2-PD" to a maximum intensity of a floor area ratio of 0.5 and height of two stories (30 feet) (I1.1).

Design and Development

- 1.49.5 Require that commercial structures be designed in accordance with Policy 1.17.5 (I1.1, I1.10, I1.18).
- 1.49.6 Require that multi-family residential units be designed in accordance with Policies 1.12.4 and 1.12.5 (I1.1, I1.10, I1.18).

Issue WHAT LAND USE MECHANISMS CAN BE USED TO INCREASE THE SUPPLY OF HOUSING UNITS AFFORDABLE FOR VERY LOW, LOW, AND MODERATE INCOME HOUSEHOLDS?

Goal *It shall be the goal of the City of Redondo Beach to:*

- 1P Increase the supply of residential units which are available and affordable for households of very low, low, and moderate household incomes.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.50 Provide land use incentives to increase the supply of affordable housing units.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.50.1 In addition to the density bonuses required to be granted under State law, consider approval of a bonus density of up to but not more than fifty (50) percent above the allowable residential density in areas designated for multi-family units and mixed-use residential and commercial for the development of housing units affordable to very low, low and moderate income households and senior citizens provided that:
- a. the units are located in close proximity to supporting public transit, commercial services, and social/recreational services;
 - b. buildings are constructed to conform to the height limits of the zone in which they are located, with the exception that building heights of up to 45 feet may be granted for the area on the west side of Pacific Coast Highway between Emerald Street and Garnet Street in conjunction with the granting of a density bonus for the purpose of providing low- and moderate-income housing;
 - c. units allocated for low, very low, and moderate income households are restricted to affordable rates for 50 years;
 - d. a mixture of income levels (room rates and sizes) is incorporated in an affordable housing development;
 - e. marketing programs will be directed to existing residents of the City of Redondo Beach;
 - f. the structures will be designed to be complementary to the character of the residential neighborhoods in which they are located;
 - g. the structures will be designed in accordance with design guidelines which maintain neighborhood compatibility without adversely impacting the quality of life;
 - h. structures shall be designed to convey the sense of multiple building volumes and incorporate articulating design elements; avoiding the character of large, undifferentiated building masses; and
 - i. adequate open space is incorporated in the project (*II.1, II.7*).
- 1.50.2 Permit the development of affordable housing units on specific sites designated by the Land Use Plan map, according to the policies and standards specified in this Plan (*II.1*).
- 1.50.3 Disperse affordable housing units throughout the City; limiting the concentration of units at any one location, neighborhood, or district, to

maintain community character and minimize localized impacts on services (I.1.1, I1.7).

Issue HOW SHOULD EXISTING USES WHICH ARE INCONSISTENT WITH AN AREA'S OBJECTIVES BE MAINTAINED OR REPLACED?

Goal *It shall be the goal of the City of Redondo Beach to:*

1M Achieve conformance with the General Plan, while ensuring that non-conforming uses are well-maintained until their replacement and that existing residential opportunities in residential areas are protected where they have been involuntarily destroyed.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.51 Provide for the reconstruction of existing residential uses that are involuntarily destroyed in residential zones.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.51.1 Permit multi-family (apartments, including two or more units on a lot, and condominiums) residential units which have been partially or totally destroyed due to involuntary events to be reconstructed in residential zones to their pre-existing density and size of units in accordance with the development standards contained in this Plan and implementing municipal codes and ordinances, unless these economically or physically preclude the ability to attain the pre-existing density, wherein the standards may be waived as necessary to attain the pre-existing density (I1.1, I1.7, I1.10, I1.18).

1.51.2 Permit single family residential units which have been partially or totally destroyed due to involuntary events to be reconstructed in residential zones to their pre-existing setbacks and size of unit.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.52 Provide for the evolution of land uses to be consistent with the land use designation of the area in which they are located, establishing mechanisms for the physical maintenance and economic well-being of nonconforming uses until they are replaced.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.52.1 Permit the retention of existing neighborhood-serving commercial uses in residential zones and allow for their minor remodeling and expansion, provided that they do not exceed the height allowed in the residential zone, are designed to be compatible with adjacent residences, provide adequate on-site parking, and adequately mitigate the impacts of

additional traffic and noise and shall be subject to Planning Commission approval (II.1, II.7).

1.52.2 Encourage the upgrading of existing neighborhood-serving commercial uses located in residential zones to enhance their compatibility with adjacent residential structures (e.g., landscape and facade improvements) (II.20).

1.52.3 Require that parking lots provided for neighborhood-serving commercial uses in residential zones are designed to be physically and visually compatible with adjacent residential properties; including the use of extensive setbacks, landscape, buffers (e.g., walls), and other appropriate elements (II.1, II.10, II.18).

Issue HOW CAN THE CITY'S PROPERTIES, STRUCTURES, AND PUBLIC OPEN SPACES BE DESIGNED TO PROVIDE A HIGH QUALITY IMAGE AND CHARACTER FOR THE CITY?

Goal *It shall be the goal of the City of Redondo Beach to:*

1N Ensure a high quality of the City's built environment, architecture, landscape, and public open spaces and sidewalks.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.53 Attain residential, commercial, industrial and public buildings and sites which convey a high quality visual image and character.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.53.1 Require adherence to the design and development standards for each land use district and neighborhood prescribed in this Plan. Allow variances to be granted from specific development criteria of the General Plan because of unusual topography, size, shape or other unique circumstances applicable to the property, provided that the variance will not be inconsistent with other goals, objectives and policies of the General Plan (II.1, II.10, II.17, II.18).

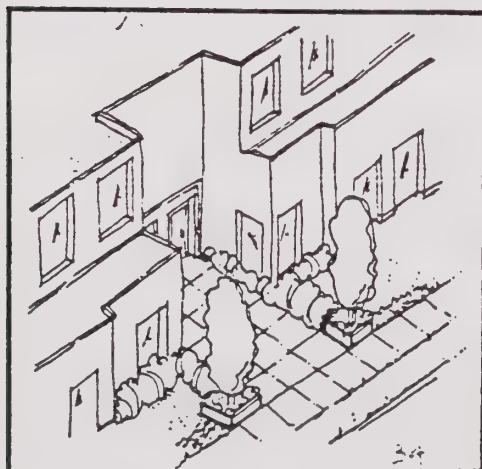
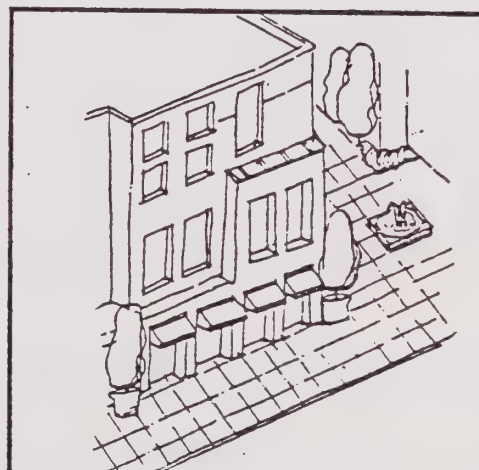
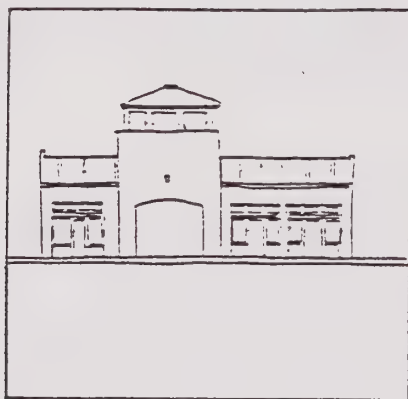
1.53.2 Establish standards for the architectural design of residential, commercial, and industrial buildings which define:

- a. base standards for all areas of the City; and
- b. supplemental standards for design styles or elements in specific districts or sub-areas to reflect existing or intended design characteristics (II.1, II.18).

1.53.3

Require that commercial and industrial buildings be designed to convey a high quality of visual and aesthetic character, utilizing design considerations such as:

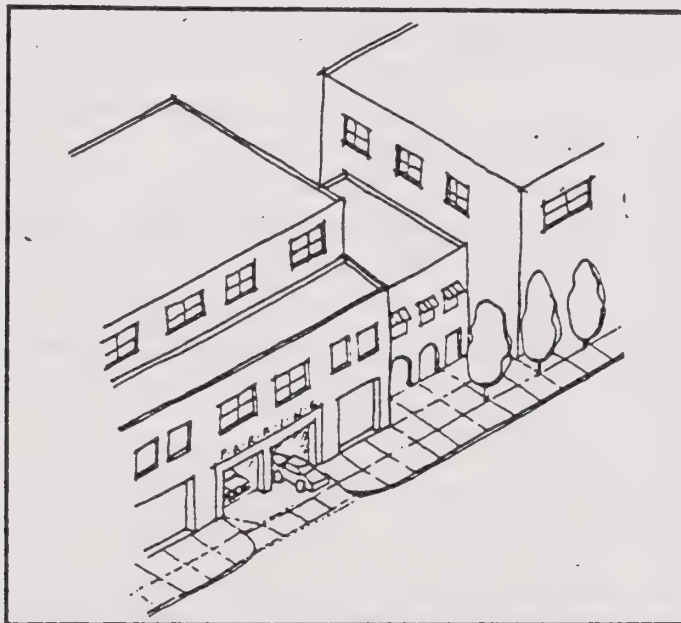
- a. Modulation and articulation of building elevations, inclusion of recessed or projecting windows, entries, or arcades, and other elements which avoid flat and undifferentiated surfaces and "box-like" structures;
- b. incorporation of vertical terminus or well-defined roofline;
- c. architectural treatment of all elevations; and
- d. use of quality and durable materials (*II.18*).



1.53.4

Review and modify, as appropriate, existing standards and procedures for the control of residential building density, bulk, and mass [e.g., building setbacks, heights, property setbacks, outdoor livable (open) space requirements, and others which are pertinent] to ensure compatibility of new development with the intended character of the neighborhoods in which they are located (*II.1, II.18*).

- 1.53.5 Establish design standards for automobile repair, gasoline stations, outdoor storage, and similar "traditionally unattractive" uses which provide for their physical and visual compatibility with the commercial district in which they are located; including standards for building character and design, materials, colors, landscape, signage, lighting, and other pertinent elements (I1.1, I1.18).
- 1.53.6 Require that on-site parking structures be designed as an integrated component of the building's architectural design character; including the incorporation of elements which continue and reinforce the architectural design of the primary structure and convey the visual "sense" of an occupied building (use of windows, arcades, overhangs, entries, recessed walkways, spandrels, articulated columns and rooflines, and other elements) (I1.1, I1.7, I1.10, I1.18).
- 1.53.7 Require that shared and municipal parking structures be designed to convey the aesthetic character of a commercial building (I1.1, I1.7, I1.10, I1.18).



- 1.53.8 Require that common fire walls which are visible from the adjoining street or property incorporate design elements which provide visual interest (I1.1, I1.7, I1.10, I1.18).
- 1.53.9 Limit the use of materials and designs which detract from the community-oriented environment (I1.1, I1.7, I1.10, I1.18).
- 1.53.10 Require that all building facades visible from public streets and abutting properties be designed to continue the architectural character established for the street facing elevations (I1.1, I1.7, I1.10, I1.18).

- 1.53.11 Require that air conditioning and other mechanical equipment located on the rooftop of a structure be visually screened from public viewing areas and adjacent residential properties (I1.1, I1.7, I1.10, I1.18).
- 1.53.12 Require that one or more professionals educated in architectural or urban design be retained on the staff of the Planning Department to review proposed development projects; evaluating their consistency with pertinent design objectives and standards (I1.10).
- 1.53.13 Require that one or more members of the City Planning Commission be a qualified and/or practicing design professional, with formal training in architectural or urban design (I1.10).
- 1.53.14 Monitor the effectiveness of the use of the architectural design standards and Community Development Department staff in attaining the desired quality of development and, if determined to be ineffective, modify these with more restrictive standards or other methods (I1.18).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.54 Promote the use of signage in private development which creates a high quality visual environment.

Policies It shall be the policy of the City of Redondo Beach to:

- 1.54.1 Limit the number, location, and size of signs to ensure that they do not visually dominate the district in which they are located and are used primarily for their intended purpose of identifying the business (I1.1, I1.7, I1.10, I1.18).
- 1.54.2 Require that signage be integrated with the architectural design of the building; placed in locations which complement facade articulation, details, and rhythm and encourage the use of pedestrian-oriented projecting signs, monument signs, and flush-mounted signs in designated pedestrian-active areas (I1.1, I1.7, I1.10, I1.18).
- 1.54.3 Prohibit the use of billboards, roof signs, exterior flashing, mounted or portable, and animated signs (I1.1).

Objective It shall be the objective of the City of Redondo Beach to:

- 1.55 Provide for the landscaping of residential, commercial, industrial and public sites to be compatible with existing development exhibiting significant and recognized landscape and site design assets and establish an improved visual image and landscape quality where not currently existing in the City.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.55.1 Review existing and modify, as necessary, landscaping standards and guidelines for development which promote a high level of visual and environmental quality and require developers to incorporate adequate landscape on-site (II.18).
- 1.55.2 Select landscape and tree species which complement the architectural design of structures and reflect the intended functional, physical, and visual character of the district in which they are located (II.18).
- 1.55.3 Require that development projects submit and implement a landscaping plan (II.1, II.7).
- 1.55.4 Encourage property owners to maintain existing vegetation on developed sites and replace unhealthy or dead landscape (II.24).
- 1.55.5 Encourage developers to incorporate mature and specimen trees and other significant vegetation which may exist on a site into the design of a development project for that site (II.18).
- 1.55.6 Require that surface parking lots incorporate trees which will provide extensive shade cover within two years of completion of construction (e.g., canopy coverage versus vertical palms) (II.1, II.7, II.18).
- 1.55.7 Encourage the use of drought-tolerant species in landscape design (II.1, II.18).
- 1.55.8 Require that development incorporate adequate drought-conscious irrigation systems and maintain the health of the landscape (II.1, II.7, II.18).
- 1.55.9 Require that all landscape be adequately irrigated with automatic irrigation systems (II.1, II.18).
- 1.55.10 Use reclaimed water for the irrigation of public and private landscape, as available (II.1, II.16).

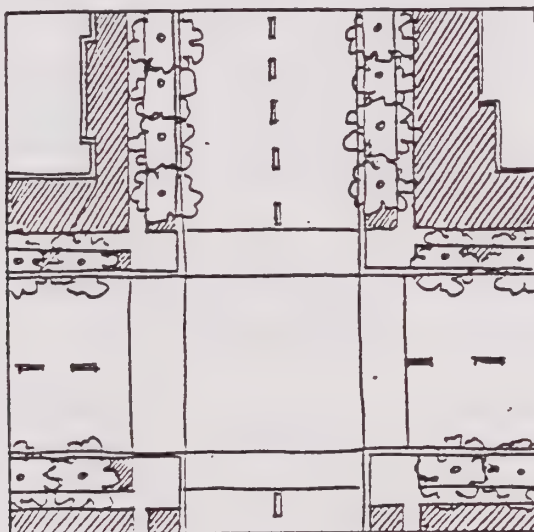
Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.56 Establish a system of visually attractive public open spaces which creates a high quality and distinctive image for the City; containing street landscape, unified public signage, well-defined entries, and other elements.

Policies *It shall be the policy of the City of Redondo Beach to:*

Street Landscape

- 1.56.1 Provide for the consistent use of street trees to identify City streets, residential neighborhoods, commercial districts, and entry points to the City, while considering and respecting the species and character of appropriate existing street trees (I1.22).
- 1.56.2 Formulate a master plan defining the types and spacing of trees along all public sidewalks and streets (I1.22).

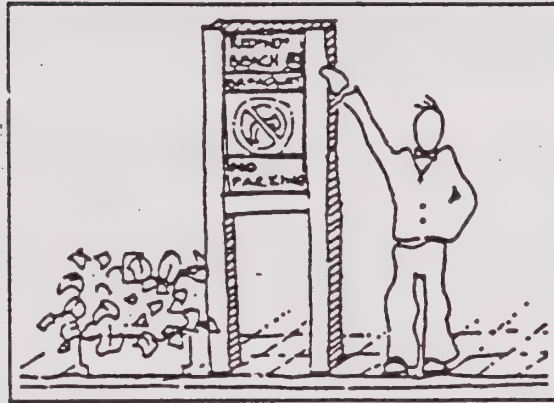


- 1.56.3 Encourage, through the Master Plan, the use of a variety of street trees along all public sidewalks and streets (I1.22).
- 1.56.4 Select species which a) enhance the character and convey a distinctive and high quality visual and environmental image for the City's streets, b) are drought- and smog-tolerant, and pest-resistant, c) require low maintenance and no pesticides, d) are deep rooted, and e) complement appropriate existing street trees (I1.22).
- 1.56.5 Select species and sizes for pedestrian-oriented commercial and residential districts which enhance walking and community activity (I1.22).
- 1.56.6 Require that all new development install street trees in accordance with a Master Plan of Street Trees (I1.1, I1.22).
- 1.56.7 Provide for the installation of street trees along public sidewalks where they are not present, in accordance with a Master Plan of Street Trees (I1.17).

- 1.56.8 Encourage community groups to participate in planting new street trees where they do not exist (I1.21).
- 1.56.9 Require that street trees be adequately maintained and replaced if removed due to damage or health (I1.1, I1.22).
- 1.56.10 Require that street landscape incorporate a drought-conscious irrigation system or other methods to provide proper watering, where irrigation systems are required (I1.1, I1.22).
- 1.56.11 Adopt a City-wide street tree trimming and pruning master plan, which cultivates the full potential of street trees as providers of shade and designators of key design corridors (I1.22).
- 1.56.12 Encourage that historically significant public landscape, including specimen street trees, be designated as landmarks and be preserved (I1.1, I1.22).

Public Signage

- 1.56.13 Establish a consistent design vocabulary for all public signage, including fixture type, lettering, colors, symbols, and logos (I1.17).
- 1.56.14 Provide public signage which is adequately spaced and clearly visible during the day and night to control vehicular traffic, bicycles, and pedestrians (I1.17).
- 1.56.15 Consider the consolidation of signage on individual fixtures/elements, which should be integrated with other street furniture (e.g., lighting, signalization, benches, trash receptacles, kiosks, and other components) (I1.17).
- 1.56.16 Replace existing public signage with new fixtures which consolidate the diversity of signage information (parking, locational, traffic control, etc.), as feasible (I1.17).



- 1.56.17 Provide for distinctive and weather-resistant signage which identifies principal entries to the City, unique districts, neighborhoods, locations, and public buildings and parks (e.g., Catalina Avenue and Torrance Boulevard, entries to the Pier/Harbor, Riviera Village, Artesia Boulevard, the Civic Center, and Pacific Coast Highway pedestrian areas) (II.17).
- 1.56.18 Ensure that public signage complements and does not detract from adjacent commercial, industrial, and residential uses (II.17).

Entry Improvements

- 1.56.19 Establish a master plan for the installation of improvements along the principal streets at the City's boundary with adjacent jurisdictions which clearly distinguishes these as major entries to the City; including elements such as signage, landscape clusters, vertical pylons or flags, banners, public art, and/or other distinctive treatment (II.17).

District Urban Design Improvements

- 1.56.20 Provide for streetscape improvements, landscape, and signage which uniquely identify the principal pedestrian-oriented commercial districts of the City, including a) Artesia Boulevard, b) Riviera Village, c) Harbor/Pier, d) the Avenues, and e) Torrance Boulevard-Pacific Coast Highway node (II.17).
- 1.56.21 Establish a design program for each principal district and neighborhood of the City (e.g., The Esplanade) which may include signage, street furniture, landscape, lighting, pavement treatments, public art, and architectural design, with input from local community groups (II.17).

Overhead Utilities

- 1.56.22 Continue programs for the undergrounding of overhead utilities throughout the City (11.17).

Issue HOW CAN COMPATIBILITY BE ENSURED BETWEEN LAND USES CHARACTERIZED BY DIFFERING FUNCTIONS AND INTENSITIES?

Goal *It shall be the goal of the City of Redondo Beach to:*

- 10 Ensure the compatibility among the various types and densities of land uses to be accommodated in the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.57 Incorporate functional and physical buffers, setbacks, and other elements as transitions between land uses characterized by differing functions, activities, density, scale, and mass.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.57.1 Require that parcels developed for commercial and industrial uses incorporate buffers with abutting residential properties which adequately protect the residential use from the impacts of noise, light, visibility of activity, vehicular traffic, and risks to the property and maintain open space and visual access (horizontal and vertical setbacks, structural or landscape enclosures, insulation, and other) (11.1, 11.7, 11.18).



- 1.57.2 Require that the on-site lighting of commercial and industrial uses be unobtrusive and constructed or located so that only the intended area is illuminated, off-site glare is minimized, and adequate safety is provided (I1.1, I1.7, I1.18).
- 1.57.3 Require that the elevation of all parking structures facing residential parcels be enclosed or controlled to prevent adverse noise and air emission impacts on the residences and incorporate architectural design elements, such as surface treatments, off-set planes, and structural articulation and landscape, to provide visual interest and be compatible with the residences (I1.1, I1.7, I1.18).
- 1.57.4 Require that rooftop parking adjacent to residential areas be enclosed by a wall or other appropriate element within an adequate distance to prevent adverse noise impacts on the residences, wherein the enclosed parking shall be within the prescribed height limit of the district in which it is located (I1.1, I1.7, I1.18).
- 1.57.5 Require that entertainment, drinking establishments, and other uses characterized by high activity levels provide adequate physical and safety measures to prevent "spill-over" impacts on adjacent properties (I1.1, I1.7, I1.8, I1.18).
- 1.57.6 Require that the renovation of existing structures or new development on sites served by parking lots located on adjacent residentially-zoned property restrict the access to such parking areas to the commercial zone frontage, unless there are no feasible alternatives, and that areas facing, abutting, or exposed to residential areas be extensively landscaped to include a screen wall incorporating evergreen plant material (covering a majority of the wall within a one year period) (I1.1, I1.7, I1.18).
- 1.57.7 Allow parking lots by conditional use permit in residential districts where the lot is contiguous to or separated by an alley from the commercially-zoned property served by the parking lot, provided that there is no adverse impact on surrounding residential properties and that areas facing, abutting, or exposed to residential areas be extensively landscaped to include a screen wall incorporating evergreen plant material (covering a majority of the wall within a one year period) (I1.1, I1.7, I1.18).

Issue **WHAT MECHANISMS CAN BE USED TO MAINTAIN THE QUALITY OF THE CITY'S BUILT ENVIRONMENT?**

Goal *It shall be the goal of the City of Redondo Beach to:*

1Q Ensure that buildings and properties are maintained in the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.58 Ensure that structures and sites are designed and constructed to maintain their long-term quality and provide for the needs of their occupants.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.58.1 Require that all structures be constructed in accordance with the requirements of the City's building and other pertinent codes and regulations; including new, adaptively-reused, and renovated buildings (I1.4).
- 1.58.2 Periodically review and update the City's building and development codes and regulations to ensure that they incorporate professionally accepted state-of-the-art standards (I1.4).
- 1.58.3 Require that all development be designed to provide adequate space for access, parking, supporting functions, open space, storage, and other pertinent elements (I1.1, I1.4).
- 1.58.4 Require that all commercial, industrial, and public development incorporate appropriate design elements to facilitate access for and use by the physically challenged (ramps, doorways, rest rooms, etc.) (I1.1, I1.4).
- 1.58.5 Require that commercial, industrial, and public development incorporate design elements and facilities which facilitate the use of transportation modes as alternatives to the automobile (pedestrian, bicycle, public transit, and other) (I1.1, I1.4).

Objective *It shall be the objective of the City of Redondo Beach to:*

- 1.59 Provide for the maintenance and, as necessary, upgrade of the physical and visual quality and integrity of buildings and properties.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 1.59.1 Periodically monitor the conditions of buildings in the City and enforce pertinent building and zoning codes, when necessary (I1.23).
- 1.59.2 Promote programs and work with local service organizations and educational institutions to inform residential, commercial, and industrial property owners and tenants regarding methods for the maintenance and upkeep of their property (I1.21).

1.59.3 Provide economic assistance, as funds are available, for the improvement of physically deteriorated and blighted structures in the City (I1.24).

1.59.4 Consider the use of the authorities of California Redevelopment Law as a mechanism to precipitate revitalization of deteriorated and blighted buildings, properties, and uses (I1.6).

Issue **WHAT MECHANISMS CAN BE USED TO ENSURE THE MAINTENANCE OF ENVIRONMENTAL QUALITY IN THE CITY?**

Goal *It shall be the goal of the City of Redondo Beach to:*

1R Ensure the protection and maintenance of environmental resources.

Objective *It shall be the objective of the City of Redondo Beach to:*

1.60 Provide that the environmental impacts of new development projects be identified and mitigated.

Policies *It shall be the policy of the City of Redondo Beach to:*

1.60.1 Require that proposed development be subject to review to identify its environmental impacts and appropriate mitigation measures in accordance with the California Environmental Quality Act (I1.7, I1.8, I1.9).

1.60.2 Monitor the impacts of development and effectiveness of mitigation measures on the City's infrastructure, services, and environment and, as necessary, initiate the following actions to account for the defined impacts:

- a. review and modify the locations, densities, and/or design and development standards contained in this Plan;
- b. implement capital improvements, public services, or other mitigation programs;
- c. require additional developer mitigation; and/or
- d. impose fees on new and/or existing development (as authorized by State of California nexus legislation) for the implementation of mitigation programs (I1.1).

1.60.3 Work with other public agencies to ensure that their facilities and operations in the City of Redondo Beach are managed in a manner to

prevent adverse environmental impacts and comply with pertinent State and federal standards and requirements (I1.25).

- 1.60.4 Establish local procedures, requirements, and programs as to maintain local and regional environmental quality and mitigate impacts; including, but not limited to, air quality management, traffic congestion management, jobs-housing balance, hazardous waste management, water and energy conservation, water quality control, noise abatement, and coastal protection (I1.1, I1.2, I1.3, I1.8).
- 1.60.5 Participate in inter-jurisdictional and regional environmental management and mitigation programs with adjoining cities in the region (I1.25).

2.1.5 Implementation Programs

The following indicates the programs which shall be carried out by the City of Redondo Beach to implement the goals, objectives, policies, and standards of the Land Use Element. Each program is preceded by the letter "I" and a number which is referenced by the pertinent policy which it implements in the preceding section. These are noted in parentheses () at the close of each policy. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

I1.1 Revise the Zoning Ordinance

The principal method for the implementation of a General Plan Land Use Map is the zoning ordinance. Policies and standards which prescribe the types of use permitted, their density/intensity, and design and development characteristics (design, property setbacks, etc.) are codified as precise requirements in the ordinance. The authority to zone is inherent in the police power delegated to cities by the State of California Constitution. The zoning ordinance consists of two basis elements: a) a map which delineates the boundaries of districts, or "land use zones," in which similar and compatible uses developed at similar and compatible standards are to be permitted and b) text which explains the purpose of the zoning district, lists the permitted uses (as a "right" or under special conditions), and defines the standards for development (e.g., minimum lot size, density, height, property setbacks, lot coverage, parking requirements, sign design, and so on).

The existing mapped depiction of land use zones is referred to as the "Precise Land Use Plan" and the textual codification of requirements is incorporated as Chapter 2 of the Redondo Beach Municipal Code, also titled the "Precise Land Use Plan." On adoption of this updated General Plan, it will be necessary to revise the "Precise Land Use Plan" map and text to be consistent with the General Plan's policies and standards.

It is evident, on review of the existing zoning ordinance text, that its format and structure are archaic and unwieldy and do not reflect "state-of-the-art" techniques and practices. To a large extent, this is attributable to the considerable passage of time since the original ordinance's preparation in the early 1960s. Subsequent changes have occurred as elaborations and appendages, whose cumulative effect over time has resulted in a complex and difficult to administer document. As a consequence, it is recommended that the City use the opportunity of the General Plan update to completely restructure and rewrite its zoning ordinance. Should this occur, it would be necessary for the City to modify its existing zoning standards and procedures so that they are consistent with the provisions of the General Plan on an interim basis during the six month or longer process for the ordinance's revision.

The following lists the general categories of revisions which will be necessitated by the adoption of the updated General Plan. These are not all-inclusive and will necessitate the careful review of the specifications of each of the policies contained in the Land Use Element and all other elements to determine the appropriate ordinance revisions.

- a. The "Precise Land Use Plan" (or "zoning map") will require revision to reflect the locations and categories of use and density delineated on the General Plan Land Use Map.
- b. Land use districts (as prescribed in Article 2 of the ordinance) will require revision to reflect the categories of use defined by the General Plan Land Use Map and policies.
- c. Development standards for each land use district will require revision to reflect the policies and standards specified for permitted uses, density and intensity, design and development, and other considerations. Generally, these include:
 - (1) Establishment of controls on the intensity of commercial and industrial development by the definition of a maximum floor area ratio. Generally, it has been assumed in the formulation of the Land Use Element policies that floor area ratio encompasses the gross building area, excluding parking structures, mechanical rooms, and subterranean basements not used for commercial or business activity. The City may elect to also exclude non-occupiable common building areas, such as stairways, ventilation shafts, arcades, and architectural projections (e.g., towers).
 - (2) Review and reconciliation of permitted residential densities (units per acre) and lot sizes.

- (3) Review and revision, as necessary, of building height limitations.
- (4) Review and reconciliation of property setbacks (horizontal and vertical) for land use compatibility.
- (5) Review and establishment of requirements for buffers between commercial and residential uses, single-family and multi-family uses, and other abutting districts characterized by differing characteristics and functions.
- (6) Establishment of standards to mitigate the impacts on adjacent properties of noise, vibration, odor, light and glare, and other operational characteristics from the Southern California Edison facility, transmission lines, harbor operations, railroad corridor, highways, and other similar uses. The standards shall apply both to the source and receiver sites (e.g., use of sound insulation in residential structures abutting the railroad corridor and SCE plant).
- (7) Review and revision of landscape standards for properties, including front yards, courtyards, plazas, side yards, rear yards, parking lots and facilities, common public areas, and other prescribed locations.
- (8) Establishment of standards to enhance the pedestrian character of streets in selected commercial districts; including specifications for the type and/or location of use, architectural treatment of facades and building mass, siting of structures along sidewalks, incorporation of pedestrian amenities, and other prescribed elements. This may be accomplished as an "overlay" to an underlying commercial land use district classification.
- (9) Establishment of architectural and site design standards for all structures, including, but not limited to, facade treatment and articulation, massing/volume modulation, organization of multiple buildings, visual and physical transparency, and other pertinent elements.
- (10) Establishment of architectural and site design standards for the development of mixed-use structures, integrating residential and commercial uses into a single structure or site. Considerations will be given to elements which ensure compatibility between these uses (e.g., separate entrances and parking, on-site residential amenities, and noise controls).
- (11) Establishment of site planning and design standards for areas in which a "village" character is intended, involving multiple buildings

or masses on individual or combined parcels or in low intensity and scaled commercial clusters. These include:

- Pacific Coast Highway, east of Palos Verdes Boulevard
 - East side of Pacific Coast Highway, Palos Verdes Boulevard to Avenue G
 - Pacific Coast Highway and Torrance Boulevard intersection
 - Galleria at South Bay
 - Riviera Village
 - The "Avenues" (Pacific Coast Highway, Avenue A to H)
 - Selected segments of Pacific Coast Highway and Artesia Boulevard
- d. Standards and requirements and provisions for bonus densities for the development of affordable housing shall be reviewed and, as necessary, modified.
- e. Standards and requirements for adult businesses, video arcades, gasoline sales, automobile and truck dealerships, and other uses characterized by activities which could conflict with the "residential" character of the community shall be reviewed and, as necessary, modified.
- f. Signage standards shall be reviewed and, as necessary, upgraded including limitations on the number, size, design, placement, materials, colors, and other characteristics of signs. A schedule shall be established for the amortization of nonconforming signs and nonconforming signs may be required to be removed when a property changes use or there is an expansion of existing use.
- g. Parking standards shall be reviewed for their adequacy. These will consider opportunities for "shared" facilities and mixed-use development projects.
- h. Requirements shall be reviewed and upgraded, as necessary, for the linkage of development with the provision of adequate transportation and utility infrastructure (streets, water, sewer, storm drainage, electricity, natural gas, and telecommunication), public services (governmental administrative, schools, parks, libraries, etc.), and public amenities (e.g., street trees). These will consider the appropriate responsibilities for developer participation and fees, in accordance with State nexus legislation and court cases.
- i. Provisions for the compliance of local development projects with regional requirements for air quality (South Coast Air Quality Management Plan), congestion management (Los Angeles County Congestion Management Program), toxics and hazardous wastes (Hazardous Waste Management Plan), solid waste reduction (Source Reduction and Recycling Element),

water and energy conservation, coastal protection (California Coastal Act), noise abatement, and other pertinent environmental controls will be specified. These will encompass development standards and procedures which implement defined requirements for local governments.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

- Interim Ordinance, within two months of adoption of the General Plan.
- Revised Ordinance, within 18 months of the General Plan's adoption (as funding is available).

I1.2 Subdivision Regulations

Subdivision regulation is an exercise of the police power of a city authorized by the State to control the manner in which land is divided. Like the zoning ordinance, it must be consistent with the General Plan. It will be necessary to review the City's subdivision ordinance (Chapter One of Title 10 of the Municipal Code) and amend it as necessary to reflect the land use goals, objectives, policies, and standards.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Revised Ordinance, within 18 months of the General Plan's adoption (as funding is available).

I1.3 Local Coastal Program

The City of Redondo Beach's Coastal Element (defined by the California Coastal Act as the "Local Coastal Program, Land Use Plan) will be updated to reflect the revised General Plan. Other revisions may be necessary to reflect planning for the rebuilding of the Pier and intentions for King Harbor. In concert, it will be necessary to complete the (unfinished) Local Implementing Ordinance. Both documents shall be submitted to the California Coastal Commission for review and certification.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Within 24 months of the General Plan's adoption (as funding is available).

11.4 Building Code

The City shall continue the Building code as the set of rules and regulations by which new construction, adaptive re-use, and renovations shall occur. The Code shall be reviewed to ensure its consistency with the provisions of the General Plan. It shall also be updated periodically to reflect changes in the Uniform Building Code and State legislation. At least once each three years, the City shall review the Code and update it as necessary to reflect conditions which are unique to the City.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

For consistency with the General Plan: within 18 months of the General Plan's adoption (as funding is available).

11.5 Specific Plans

State law (Government Code Section 65450) authorizes cities to adopt Specific Plans for implementing their general plans in designated areas. They are intended to provide more finite specification of the types of uses to be permitted, development standards (setbacks, heights, landscape, architecture, etc.), and circulation and infrastructure improvements. They are most often used to ensure that multiple property owners and developers adhere to a common development plan or ensure that the individual phases of a long-term multi-phased development project are integrated and cohesive.

Specific Plans can be initiated by the City or developers. Costs for City-initiated Specific Plans are, most often, reimbursed by pro-rata allocation of fees to developers applying for development permits in the Specific Plan area.

In concert with the preparation of the updated General Plan, a separate Specific Plan has been developed for the area generally encompassing the

Catalina Avenue corridor between Pacific Coast Highway and Pearl Street, Civic Center, King Harbor, Redondo Beach Pier, and Pacific Coast Highway property frontages. This Plan (separate document) shall be considered for approval by the City apart from the General Plan.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department and private developers.

Schedule for Implementation

- Civic Center-North Catalina Avenue Corridor-King Harbor Specific Plan: concurrent with adoption of the updated General Plan.
- Others: as determined to be necessary.

I1.6 Development Agreements

Development agreements are authorized by State law to enable a city to enter into a binding contract with a developer which assures the city as to the type, character, and quality of development and additional "benefits" which may be contributed and assures the developer that the necessary development permits will be issued regardless of changes in regulations.

This ensures that a developer of a multi-phased project who has established financing on conditions negotiated with the city would not be adversely affected by subsequent, more restrictive regulations. This, in turn, enables the city to exact a higher level of performance, quality, and contributions than would normally accrue through the entitlement process.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department and private developers.

Schedule for Implementation

On a case-by-case developers as desired by the City or private developers.

I1.7 Development Review

New development and enlargement of existing structures, except single-family residences are subject to review according to their adherence with City of Redondo Beach standards and regulations and General Plan policy and issuance of a Development Permit. Certain projects, consistent with zoning,

are considered as "ministerial" and are subject to approval by the Director of Community Development. Others are subject to discretionary review, including those which must receive Conditional Use Permits or variances and are subject to review by the Planning Commission and formal public hearings. In particular, development review is essential for the following:

- a. Determination of the appropriateness and extent of bonus densities for affordable and seniors housing units.
- b. Review of mixed-use development projects (integrating residential and commercial).
- c. Review of projects in districts in which more restrictive design and development standards are imposed to maintain or achieve a special quality or to control large scale projects (e.g., Riviera Village, the "Avenues," Torrance-PCH intersection, North Catalina Avenue, pedestrian-oriented areas, TRW, and Galleria at South Bay).
- d. Review of the appropriateness and imposition of controls on "high-impact" developments (arcades, etc.).
- e. Review of projects located in "high-impact" areas (e.g., adjacent to the Southern California Edison plant).
- f. Review of modifications of existing development which is "non-conforming" due to its use, density, and/or design. This will include the consideration of the replacement of structures involuntarily destroyed.

The decisions of the Planning Commission can be appealed to the City Council. In preparing the implementing zoning ordinance for this Plan, the City should re-evaluate these regulations for their adequacy in providing effective public review and comment on proposed development projects. As necessary, the thresholds for review should be revised to reflect the potential impacts of a project based on type of use, size, location, trips generated, infrastructure demands, or other appropriate criteria.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Review and modification of development review requirements: in concert with the preparation of the revised zoning ordinance, within 18 months of the adoption of the updated General Plan.

11.8 Environmental Review

The California Environmental Quality Act (CEQA) requires that the environmental effects of a project must be taken into account when considering zone changes, development permits, specific plans, and development agreements. This involves the review of all projects submitted by an applicant or initiated by the City and determination of their potential for significantly affecting the City's and region's environmental resources (by an "Initial Study"). If it is found that significant impacts may occur, an Environmental Impact Report (EIR) must be prepared.

The EIR presents an overview of the environmental setting of the project, assesses how that environment will change on introduction of the project, prescribes changes to the project which must be made to mitigate any impacts found to be significant, and identifies and evaluates the impacts of any alternatives. The "environment" of Redondo Beach to be evaluated consists of the composite of existing physical elements; including natural environmental components (air quality, geology/seismicity, groundwater, etc.) and man-related components (circulation and traffic, infrastructure, public services, etc.). Economic impacts are not considered part of the environment, according to CEQA. This does not preclude the preparation of separate "Fiscal" or "Economic" impact analyses. However, they are not part of an EIR.

On completion of an EIR, it is made available for public review and comment. At least one public hearing must be conducted by the Planning Commission on the draft EIR. Comments received must be responded to and addressed in the Final EIR.

Environmental review occurs in concert with the Development Permit process. No discretionary permit can be approved without, first, satisfactory completion of the environmental review process. This may involve the preparation of a complete EIR, "Focused" EIR if found that only a limited number of resources may be impacted, "Supplemental" EIR if the project is a revision of an earlier project or time has passed and conditions have changed, or "Negative Declaration" if the project is determined by the City to have no significant effects.

Where mitigation actions are specified during environmental review, a plan ("Mitigation Monitoring Plan") must be prepared which specifies the manner in which the development project will be monitored to determine whether these actions were implemented and effective. This plan must be approved by the City in concert with the certification of the EIR.

Redondo Beach's environmental review procedures are specified in Chapter 3 of Title 10 of the Municipal Code and should be reviewed for consistency with the goals, objectives, policies, and standards contained in this Plan.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

- Procedures: in concert with the preparation of the revised zoning ordinance, within 18 months of the adoption of the updated General Plan.
- Environmental review documents: on a case-by-case basis.

II.9 Traffic Impact Review

As a component of the environmental review process, or separately, the City shall require the conduct of an analysis defining the traffic impacts and mitigation measures for new development and the adaptive re-use of existing structures. A threshold (i.e., number of trips) should be established above which such analyses would be required. The analyses will be subject to public and Transportation Commission review.

Projects classified as "regionally-significant," as determined by the Los Angeles County Transportation Commission criteria, shall be subject to review for their impacts on designated regional highways and compliance with the Los Angeles County Congestion Management Plan (CMP), when adopted. This may include a fee contribution for the mitigation of impacts on the regional highway network.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department and Public Works Department.

Schedule for Implementation

- Procedures: in concert with the preparation of the revised zoning ordinance, within 18 months of the adoption of the General Plan.
- Projects: on a case-by-case basis.

I1.10 Architectural Design Review

The goals, objectives, policies, and standards contained in the Land Use Element mandate a high level of architectural and site design performance in the City of Redondo Beach. To this end, it is encouraged that one or more professionals who are trained in architectural, landscape, and/or urban design be retained on City staff. This person or persons would be responsible for meeting with development applicants and explaining to them the design goals, objectives, policies, and standards of this plan and how they will be interpreted by the City. Specific visual examples of projects which meet these requirements should be presented.

This will enable the City to be pro-active in design, rather than the normally reactive stance of the development review process. In addition, it is recommended that one or more members of the Planning Commission be trained in the same design professions. This would enhance the credibility of the formal design review of discretionary projects by the Commission; basing decisions on objective training as well as subjective "lay" viewpoints.

Responsibility for Implementation

City of Redondo Beach, policy position of the City to be established by the City Council as a "goal" or "target" for employment and Commission guidelines.

Schedule for Implementation

Within six months of the adoption of the General Plan.

I1.11 General Plan Monitoring and Update

The City shall review, revise, and update the General Plan periodically. This should include a) an update of baseline data, analyses, and issues to account for current conditions; b) evaluation of the policies and programs contained in this Plan according to their effectiveness in achieving the Plan's goals and objectives; and c) revision of the policies and programs to increase their effectiveness, where necessary, and to account for current issues and legislation. Public input shall be actively solicited in the update. In addition, the Plan shall be monitored annually for its effectiveness in mitigating defined issues and achieving its goals and objectives. The Planning Commission shall report these findings to the Mayor and City Council.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department, Planning Commission, and City Council

Schedule for Implementation

- Monitoring Reports: once each year.
- General Plan updates: periodically.

II.12 Redevelopment

The State of California, through the Community Redevelopment Law (Health and Safety Code Sections 33000 et. seq.) authorizes a city to undertake redevelopment projects to revitalize blighted areas. An adopted plan provides additional tools beyond those traditionally provided by planning law to a city to effectuate productive change.

These include the use of tax increment revenues (i.e., amount of additional tax revenue above a "frozen" base generated by increased property valuations resulting from new development in the Project Area), property acquisition, consolidation of small parcels, joint public-private partnerships, clearance of land and resale to developers, and relocation of tenants. Twenty percent of the tax increment revenue, in most cases, is to be used to increase and improve the community's supply of low and moderate income housing. The use of California Redevelopment authorities considerably facilitate the process of creating joint partnerships with the business community to cure existing problems and create new jobs.

Redevelopment Plans may be adopted with respect to areas in which the conditions of physical, economic, and/or social blight predominate. At a minimum, it is recommended that the City of Redondo Beach consider the use of State-authorized redevelopment activities for the revitalization and more effective use of the parcels on the east side of Pacific Coast Highway between Anita/Herondo Street and Diamond Street and to stimulate conversion of the Ruxton Lane industrial area for residential uses. If private market activities are unsuccessful in attaining desired improvements in the North Catalina Avenue corridor, it is suggested that redevelopment also be considered here.

Any application of the redevelopment authorities should minimize the acreage and uses to be encompassed in the Project Area. Residential areas should be excluded unless it is the intent (as on Pacific Coast Highway) to convert these to another use. Redevelopment actions should be targeted to the few, relatively modest projects which can be demonstrated to be economically feasible and effectively stimulate further revitalization.

Responsibility for Implementation

City of Redondo Beach, Department of Community Development.

Schedule for Implementation

- Feasibility studies for the redevelopment of Pacific Coast Highway (Anita/Herondo-Diamond) and the Ruxton Lane industrial area: within two years of the adoption of the General Plan, unless adequate funding is not available.
- Other areas: as required.

I1.13 King Harbor Operations

Development in King Harbor shall continue to be administered by the City of Redondo Beach Harbor Department and subject to input by the Harbor Commission and approval of the City Council. Contractual leases between the City and leaseholder define the type of development permitted on each parcel and duration/tenure of the leasehold. Such leaseholds are negotiated by the Harbor Department and are subject to review and input of the Harbor Commission, who acts as an advisory body. Final approval of the lease is the responsibility of the City Council.

Development projects on the leasehold properties are submitted to the Harbor Department, whereupon they are reviewed for their consistency with zoning by the Department of Community Development. This review will expand upon the criteria historically used to encompass the additional design and development standards contained in this General Plan.

Responsibility for Implementation

City of Redondo Beach.

Schedule for Implementation

Ongoing.

I1.14 Redondo Beach Pier Operations

Development on the Redondo Beach Pier shall continue to be administered by the City of Redondo Beach Harbor Department and subject to input by the Harbor Commission and approval of the City Council. The type, amount, and design character of development to be permitted on the reconstructed Pier is defined by the Redondo Beach Pier Master Plan. Contractual leases between the City and leaseholder define the type of development permitted on each parcel and duration/tenure of the leasehold. Such leaseholds are negotiated by the Harbor Department and are subject to review and input of the Harbor Commission, who acts as an advisory body. Final approval of the lease is the responsibility of the City Council.

Development projects on the leasehold properties are submitted to the Harbor Department, whereupon they are reviewed for their consistency with zoning by the Department of Community Development. This review will expand upon the criteria historically used to encompass the Pier Design Manual and additional design and development standards contained in this General Plan.

Responsibility for Implementation

City of Redondo Beach.

Schedule for Implementation

Ongoing.

II.15 Inter-Agency Coordination

Development in the City of Redondo Beach impacts and is impacted by the actions of adjacent municipal jurisdictions, utility districts (e.g., Southern California Edison Company), school districts, service providers, and "superior" governmental agencies (e.g., County of Los Angeles and the California Department of Transportation). As a consequence, it is essential that the actions of each jurisdiction which impact one another be closely coordinated. Agreements and procedures for coordination need to be continued or established where they do not currently exist. This will become increasingly important as the State of California moves to establish state-wide and regional policy and administrative mechanisms to address the issues of growth (e.g., congestion management, air quality, solid waste, and traffic) which may impact the City's local decision authorities over time.

Among the many and diverse concerns which should be addressed are the following:

- a. Land use compatibility on the City's periphery and interface of streets and traffic; with the Cities of Hawthorne, Manhattan Beach, Hermosa Beach, Lawndale, and Torrance.
- b. Regional transportation (Pacific Coast Highway and Artesia Boulevard) and public transit; with the California Department of Transportation, Los Angeles County Transportation Commission, Southern California Association of Governments, and Santa Fe Railroad.
- c. Development of the harbor, pier, and coastal properties; with the California Coastal Commission, State Lands Commission, California

Department of Fish and Game, United States Army Corps of Engineers, and Regional Water Quality Control Board.

- d. Development and operations of electrical generating and transmission facilities; with the Southern California Edison Company.
- e. Provision and maintenance of other public and quasi-public utilities; Southern California Gas Company, General Telephone Company, California Water Company, Western Waste Industries, County of Los Angeles Flood Control, and Century Cable.
- f. Provision of schools; with the Redondo Beach School District and South Bay Union High School District.
- g. Regional air quality; with the South Coast Air Quality Management District.
- h. "Fair share" provision of affordable housing units; with the Southern California Association of Governments and State of California Department of Housing and Community Development.
- i. Provision of social services; County of Los Angeles, State of California, and local service providers.

Responsibility for Implementation

City of Redondo Beach.

Schedule for Implementation

Ongoing.

II.16 Capital Improvements Program

The City of Redondo Beach maintains a Capital Improvements Program (CIP) which provides for the construction and upgrade of streets, storm drains (not under the responsibility of Los Angeles County Flood Control), municipal buildings, and other public physical facilities. It defines the specific improvements to be accomplished annually and allocates budget for these. Normally, the CIP is revised no less often than every five years and is subject to approval by the City Council.

Responsibility for Implementation

City of Redondo Beach Public Works Department.

Schedule for Implementation

- a. Program: update every five years.
- b. Implementation: each year, as funding is available.

I1.17 Urban Design Improvement Program

The Plan provides for the implementation of streetscape and other urban design improvements throughout the City's commercial corridors. These include the use of consistent street trees, furniture (benches, trash receptacles, etc.), and signage. In key activity and pedestrian-oriented districts, a program of more extensive improvements are proposed including the use of entry and district signage and monuments, pedestrian-oriented lighting, "aesthetic" crosswalk and sidewalk paving, expanded landscape, and other elements. Locations designated for such improvements include:

- a. Artesia Boulevard (consistent with the Artesia Boulevard Improvement Plan).
- b. Pacific Coast Highway and Torrance Boulevard intersection.
- c. Riviera Village.
- d. Galleria at South Bay and surrounding parcels.
- e. Civic Center and adjacent properties.
- f. Redondo Beach Pier-King Harbor area.
- g. Entries along the City's key arterials (Torrance Boulevard and Pacific Coast Highway).

For each area, a comprehensive urban design master plan shall be prepared. At a minimum, this will specify the improvements to be implemented, pertinent design and development standards, their costs, and a financing program. The latter may be accomplished as a condition of and integrated with the development of private projects (e.g., Pacific Coast Highway and Torrance intersection and the Galleria at South Bay) or by the establishment of an Assessment District (e.g., Artesia Boulevard).

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Urban Design Master Plans: within five years of the adoption of the updated Municipal Code, as funding is available.

11.18 Formulate Architecture, Site, and Landscape Design Guidelines and Standards

Architecture, site, and landscape design guidelines shall be established for development throughout the City. These should define the salient design characteristics which are necessary to ensure that new development and renovation of existing structures attains the high quality which is desired in the City and does not adversely impact the character of existing districts which exhibit special design qualities. For example, in the "Avenues" area of the City, the design guidelines should prescribe standards for the height, massing, scale, articulation, and setbacks of structures to continue the single-family character that distinguishes much of the existing development in this unique neighborhood. In designated "pedestrian-oriented" commercial districts, the guidelines should be formulated to promote pedestrian activity, such as siting structures in proximity to public sidewalks, maintaining visual transparency of the ground floor elevation, and incorporating architectural design elements which provide visual interest.

In general, the guidelines/standards should be more precise in those areas which currently exhibit a distinctive architectural and planning character, such as the "Avenues" and Riviera Village, or are intended to establish a special sense of place, such as Artesia Boulevard. The guidelines should specify the overall characteristics of development desired, such as scale, massing, siting, facade articulation, and amenity. Restricted and specific design idioms, such as "Spanish Colonial Revival," are considered inappropriate for the City and should not be used.

The guidelines shall be reviewed by the Planning Commission and adopted by the City Council.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Within three years of the adoption of the updated Municipal Code, as funding is available.

II.19 Land Development/Parcel Re-Configuration

A study shall be conducted, in concert with any redevelopment planning activities, to determine the feasibility of re-routing Catalina Avenue between Beryl Street and the Pacific Coast Highway intersection approximately coincident with the railroad right-of-way and Francisca to Herondo. This would facilitate the re-use of the parcels currently located along this segment of Catalina Avenue for an integrated mixed-use commercial and residential "village."

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department and Public Works Department.

Schedule for Implementation

Coordinated with redevelopment planning activities.

II.20 Interface with Property Owners and Developers for Property Maintenance

The City shall establish programs to encourage property owners to maintain and upgrade, as necessary, the quality of existing buildings in the City. This may include:

- a. periodic visual surveys of the conditions of the City's districts and neighborhoods, identifying sites which exhibit substantial inadequate maintenance;
- b. contact of the owners or tenants of sub-standard properties to encourage their remedial actions;
- c. provision of technical assistance (at City Hall) to the property owners and tenants regarding the techniques by which properties can be maintained and upgraded; and
- d. assistance in the solicitation of low-interest loans for the upgrade of sub-standard properties.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

City's private property maintenance program: within two (2) years of the adoption of the General Plan, as funding is available.

I1.21 Educational Programs

Expanding upon the prior implementation strategy, the City shall work with local contractors, developers, and schools to establish a program to educate the public regarding the techniques which may be employed to maintain and upgrade properties. These may be structured as classes presented to local homeowners, business, and/or community organizations, and/or on cable television.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Within two (2) years of the adoption of the General Plan, as funding is available.

I1.22 Street Tree Master Plan

The City shall formulate a comprehensive master plan which shall list the permitted trees in the public rights-of-way along all streets in Redondo Beach. It will specify species, minimum size, spacing, and irrigation requirements. It is intended that the plan identify consistent species for blocks, streets, neighborhood, or districts which provide distinctive identities for these areas.

Responsibility for Implementation

City of Redondo Beach, Planning Division of the Community Development Department.

Schedule for Implementation

Within two (2) years of the adoption of the updated Municipal Code, as funding is available.

I1.23 Code Enforcement

Codes and ordinances of the City of Redondo Beach which implement the Land Use Element shall be enforced. Historically, this has been accomplished by City staff responses to specific complaints. If a problem has been found on investigation, a demand for compliance has been issued. In general, this approach has adequately maintained the quality of the City's built environment.

SECTION 2.2

Housing

2.2 HOUSING

2.2.1 Statutory Requirements

Adequate and affordable housing is one of the most basic and important of all community needs. In requiring that every General Plan include a Housing Element, the State of California has declared that:

"The availability of housing is of vital statewide importance, and the early attainment of decent housing and a suitable living environment for every California family is a priority of the highest order" [California Government Code Section 65580(a)].

"Local and state governments have a responsibility to use the powers vested in them to facilitate the improvement and development of housing to make adequate provision for the housing needs of all economic segments of the community" [California Government Code Section 65580(d)].

The Housing Element of the updated General Plan is intended to examine the City's housing problems and needs, the opportunities and constraints related to addressing these needs, and formulating policies and programs to address as much of the need as possible.

The requirements established by the state for the content of the Housing Element are very detailed, and are the most extensive requirements for any element of the General Plan. The large majority of the information and analysis contained in the Housing Element has been included as a result of state requirements.

The provision of housing in Redondo Beach, particularly low- and moderate-income housing, is difficult for many reasons, including very high land costs, a lack of available sites, and Redondo's desirable location and living environment. These circumstances make the housing issue in Redondo Beach all the more important, and sets forth a challenge to the City to take meaningful actions to provide adequate and affordable housing for its residents.

2.2.2 Community Housing Profile

The information presented in the following community housing profile is based on data obtained from the 1990 United States Census. The focus of this particular section is on household characteristics and trends. Additional, more detailed information on the demographics of the community can be found in the Community Development and Resources section of the General Plan.

The data used in the following analysis was that compiled by the Bureau of the Census in the form of the Summary Tape File 1A (STF 1A). This profile contains all of the data items that were available at the time this element was prepared, including data items on age, sex, marital status, and detailed race/ethnicity, housing units by occupancy status, tenure and units in structure, household composition, and group quarters. It is important to note that because no 1990 Census income data was available at the time this element was prepared, other data sources were used. STF 1A profiles were analyzed at the county, region, city, and census tract level for this analysis. In this way, the City was able to accurately compare and contrast the housing characteristics of the community.

Population/Housing Growth Trends

Population

Over time, the population of the City of Redondo Beach has grown steadily but not dramatically. The largest increase during the 1960-1990 planning period occurred between 1960 and 1970, when the City's population increased by a total of approximately 13 percent. The City experienced very little population growth over the 1970-1980 period, but has since seen an increase in its rate of population growth. The growth rate decreased to 1.8 percent between 1970 and 1980 but increased to 5.4 percent over the 1980-1990 period. These figures are shown herein (Table 3).

Table 3

POPULATION, HOUSING, HOUSEHOLD GROWTH TRENDS						
<u>Year</u>	<u>Population</u>	<u>% Increase</u>	<u>Housing Units</u>	<u>% Increase</u>	<u>Households</u>	<u>% Increase</u>
1960	46,986		15,579		14,522	
1970	56,075	13.0	20,251	30.0	18,795	29.4
1980	57,102	1.8	25,867	27.7	24,637	31.1
1990	60,167	5.4	28,220	9.1	26,717	8.4

Housing

Relative to population growth, housing units and households have seen more dramatic increases over the 1960-1990 period. From 1960 to 1970, the number of housing units increased 30 percent, while the number of households increased 29.4 percent. This considerable growth continued into the 1970-1980 period, when the number of housing units increased 27.7 percent and the number of households increased 31.1 percent. The rate of growth for housing units and households slowed somewhat during the most recent 1980-1990 period, with an increase of only 9.1 percent and 8.4 percent, respectively.

These figures, also shown in **Table 3**, are significant in that they indicate that the rate of housing units and household growth far exceeded the population growth for the project period.

Household Composition

This section examines the family structure of households in Redondo Beach. Since different types of households need or prefer different types of housing, this information can be useful in assessing the physical housing needs of the City. The data on households by composition for the City are compared with the same data for Los Angeles County (**Table 4**). Households are classified as "family" households or "non-family" households. "Family" households are those in which the head of household lives together with one or more related persons. "Non-family" households consist of a group of unrelated persons or a single person living alone.

Table 4

HOUSEHOLDS BY COMPOSITION (1990)			
<u>Category</u>	<u>Number</u>	<u>Redondo Beach Percentage</u>	<u>Los Angeles Co. Percentage</u>
Total Households	26,717	100.0	100.0
Family Households	14,204	53.2	67.4
Married Couple Family	10,715	40.1	48.7
With Related Children	4,219	15.8	26.2
No Related Children	6,496	24.3	22.4
Other Family	3,489	13.1	18.7
Male Householder, No Wife	1,095	4.1	5.7
With Related Children	457	0.1	2.9
No Related Children	638	0.2	2.8
Female Householder/No Husb.	2,394	9.0	13.1
With Related Children	1,256	5.0	8.3
No Related Children	1,138	4.0	4.8
Non-Family Households	12,513	46.9	32.6
One Person Households	7,845	29.4	25.0
Male Householder	4,235	15.9	11.3
Female Householder	3,610	13.5	13.6
Two or More Person HH	4,668	17.5	7.7
Male Householder	2,888	10.8	4.7
Female Householder	1,780	6.7	2.9

County Comparison

Redondo Beach has only slightly more family households (53.2 percent) than non-family households (46.9 percent). This compares with 67.4 percent family households and 32.6 non-family households in Los Angeles County. In Redondo Beach only 15.8 percent of all households classified themselves as married couple family with related children, whereas 26.2 percent of all Los Angeles County households classified themselves as such.

Population by household type and relationship is presented (Table 5). It is significant to note that the number of persons in family households (69.0 percent) is more than double the number of persons in non-family households (31.0 percent). This compares with 84.2 percent of the Los Angeles County population in family households, and only 14.8 percent in non-family households. In Redondo Beach 21.7 percent of all children and grandchildren live in family households versus 33.2 percent of all children and grandchildren in Los Angeles County.

Table 5

POPULATION BY HOUSEHOLD TYPE AND RELATIONSHIP (1990)			
<u>Category</u>	<u>Number</u>	<u>Redondo Beach Percentage</u>	<u>Los Angeles Co. Percentage</u>
Total Population	60,167	100.0	100.0
In Family Households	41,521	69.0	84.2
Householder	14,204	23.6	22.9
Spouse	10,715	17.8	16.6
Child	12,487	20.8	31.2
Grandchild	544	0.9	2.0
Other Relatives	2,103	3.5	7.7
Non-Relatives	1,468	2.4	3.8
In Non-Family Households	18,646	31.0	14.8
Householder Living Alone	7,845	13.0	8.5
Householder Not Living Alone	4,668	7.8	2.6
Non-Relatives	6,097	10.1	3.7
In Group Quarters	36	0.1	1.1

Household Sizes

This section examines households by the number of persons they contain. Overall, households in Redondo Beach are relatively small in size, with an average of 2.25 persons in 1990. Over two-thirds of all households in the City are comprised of only one or more persons. Owner-occupied households (2.39 persons per unit) are larger than renter-occupied households (2.13 persons per unit) by an average of 12.2 percent. Both the majority of owner-occupied households and renter-occupied households contain two persons. These figures are shown (Table 6).

Table 6

PERSONS IN HOUSEHOLDS (1990)						
<u>Household Size</u>	<u>All Households</u>	<u>%</u>	<u>Owner-Occupied Households</u>	<u>%</u>	<u>Renter-Occupied Households</u>	<u>%</u>
1 Person	7,845	29.4	2,960	23.9	4,885	34.1
2 Persons	10,340	38.7	4,973	40.1	5,367	37.5
3 Persons	4,667	17.5	2,282	18.4	2,385	16.6
4 Persons	2,534	9.5	1,447	11.7	1,087	7.6
5 Persons	858	3.2	476	3.8	382	2.7
6 or more	473	1.8	252	2.0	221	1.5
Total	26,717	100.0	12,390	100.0	14,327	100.0

Historical Trend

Since 1960, the City of Redondo Beach has experienced steady decreases in terms of the average size of households. Whereas the average size of households in 1960 and 1970 was equal to or exceeded three persons per household, more recent Census data indicate that average household size has decreased to just over two persons per household. These figures are shown (Table 7).

Table 7

PERSONS PER HOUSEHOLD HISTORICAL TREND	
<u>Year</u>	<u>Persons Per Household</u>
1960	3.29
1970	3.00
1980	2.31
1990	2.25

County/Regional Comparison

Based on persons per household, the average household in Los Angeles County is 29.3 percent larger than the average Redondo Beach household. Relative to the South Bay region in which Redondo Beach is located, the average household in the South Bay is 13.3 percent larger than the average Redondo Beach household. These comparisons are similar for both the owner- and renter-occupied households. Within Redondo Beach, there is no significant difference between the number of persons per household. Comparisons of local, regional, and county persons per household rates are presented (Table 8)

Table 8

PERSONS PER HOUSEHOLD COMPARISON (1990) CITY/REGION/COUNTY COMPARISON			
<u>Household Type</u>	<u>Redondo Beach</u>	<u>South Bay</u>	<u>Los Angeles County</u>
All Households	2.25	2.55	2.91
Owner-Occupied Households	2.39	2.66	2.99
Renter-Occupied Households	2.13	2.44	2.83

Sub-Area Comparison

Households within the North Redondo sub-area are, on the average, 20.7 percent larger than households in the South Redondo sub-area. This is further evidenced by the greater concentration of North Redondo households (39.5 percent) with three or more persons per household, as compared to percentage in South Redondo households (23.8 percent). Sub-area comparisons are shown (Table 9).

Table 9

PERSONS IN HOUSEHOLDS BY SUB-AREA (1990)						
<u>Household Size</u>	<u>Redondo Beach</u>	<u>%</u>	<u>North Redondo</u>	<u>%</u>	<u>South Redondo</u>	<u>%</u>
1 Person	7,845	29.4	3,018	21.9	4,827	37.2
2 Persons	10,340	38.7	5,301	38.5	5,039	38.9
3 Persons	4,667	17.5	2,874	20.9	1,793	13.8
4 Persons	2,534	9.5	1,667	12.1	867	6.7
5 Persons	858	3.2	567	4.1	291	2.2
6 or more	473	1.8	331	2.4	142	1.1
Total	26,717	100.0	13,758	100.0	12,959	100.0
Median	2.25		2.45		2.03	

Income Levels

Redondo Beach is commonly considered to be a relatively affluent community. While this is not wholly untrue, Redondo Beach also has a moderate proportion of lower income households. Because 1990 Census income was not available at the time this element was prepared, income estimates from Urban Decision Systems, Inc. were used in this analysis. City staff has assumed the 1980 distributions in allocating the number of households per income range.

Historical Trend

As indicated (Table 10), all income levels in Redondo Beach have increased by more than 50 percent between 1980 and 1990. Increases in mean or average income levels (both household and family), however, were proportionately greater than the increases in median income levels. This circumstance indicates that, between 1980 and 1990, the incomes of the City's more affluent households and families increased by greater proportions than did the incomes of the less affluent.

County Comparison

Income levels for Los Angeles County also increased by more than 50 percent between 1980 and 1990; however, the increases for Redondo Beach were higher over this time period. City and County income levels are shown (Table 11).

Median and Mean (Average) Incomes

Redondo Beach's median household income is 23.8 percent higher than Los Angeles County's. The City's mean household income, however, is only 6.1 percent higher. Median and mean family incomes are also higher than those of Los Angeles County, by 7.0 percent and 18.9 percent, respectively.

Per Capita Income

Per capita income is the average income computed for every man, woman, and child in the City. The per capita income for Redondo Beach (\$17,429) is 18.9 percent higher than the per capita income for the County (\$14,660).

Number of Households by Income Ranges

The income characteristics of the City are most easily evidenced when households are grouped into different income ranges. The various classification of income ranges including very low income, low income, moderate income, and upper income are indicated (Table 12). These ranges are based various percentages of a county median income estimate of \$30,525. The County income range in these categories is often used by cities to determine affordable housing needs.

Table 10

INCOME LEVEL INCREASES (1980 - 1990)				
	<u>1980</u>	<u>1990 Estimate</u>	<u>Increase</u>	<u>Percentage Increase</u>
Median Household Income	\$21,825	\$34,782	\$12,957	59.4%
Mean Household Income	\$24,466	\$45,440	\$20,974	85.7%
Median Family Income	\$24,241	\$44,606	\$20,365	84.0%
Mean Family Income	\$26,753	\$54,498	\$27,745	103.7%
Per Capita Income	\$10,545	\$17,429	\$ 6,884	65.3%
Source: 1980 Census, 1990 US Census & Urban Decision Systems, Inc. estimates				

Table 11

INCOME CHARACTERISTICS (1990)		
	<u>Redondo Beach</u>	<u>Los Angeles County</u>
Median Household Income	\$34,782	\$30,525
Mean Household Income	\$45,440	\$42,847
Median Family Income	\$44,606	\$38,908
Mean Family Income	\$54,498	\$50,927
Per Capita Income	\$17,429	\$14,660
Source: 1980 Census, 1990 US Census & Urban Decision Systems, Inc. estimates		

Table 12

INCOME CLASSIFICATIONS FOR LOS ANGELES COUNTY (1990)		
<u>Classification</u>	<u>Percentage of County Median Income</u>	<u>Income Range in 1990</u>
Very Low Income	0 - 50%	\$ 0 - \$15,263
Low Income	50% - 80%	\$15,263 - \$24,420
Moderate Income	80% - 120%	\$24,420 - \$36,630
Upper Income	120% +	\$36,630 and over
Note: Income range estimates are based on 1990 Urban Decision Systems, Inc. estimate of county median household income (\$30,525).		

The most notable differences between the City and the County are a higher proportion of very low income households in Los Angeles County, and a higher proportion of upper income households in Redondo Beach. City and county income range comparisons are shown (Table 13).

Table 13

HOUSEHOLDS BY INCOME CLASSIFICATION				
Classification	REDONDO BEACH		LOS ANGELES COUNTY	
	Number of Households	Percentage	Number of Households	Percentage
Very Low Income	5,286	19.8	741,410	24.8
Low Income	4,289	16.1	520,182	17.4
Moderate Income	3,865	14.5	415,547	13.9
Upper Income	13,277	49.7	1,312,413	43.9
Total	26,717	100.0	2,989,552	100.0

Housing Types

According to the 1990 Census, there are a total of 28,220 housing units in Redondo Beach. Of the total units, approximately 54.0 percent were single-family units, and 45.7 percent multi-family units. There are also 92 mobile home units in the City. These figures are shown (Table 14).

Table 14

NUMBER OF HOUSING UNITS											
Year	Single Family Detached	%	Single Family Attached	%	2-4 Units	%	5+ Units	%	Mobile Homes	%	Total
1960	12,060	77.4			1,644	10.6	1,875	12.0			15,579
1970	12,684	62.6	398	2.0	2,800	13.8	4,154	20.5	215	1.1	20,251
1980	10,861	42.0	561	2.2	4,515	17.5	9,737	37.6	193	0.7	25,867
1990	11,606	41.1	3,634	12.9	4,050	14.4	8,838	31.3	92	0.3	28,220
L.A. County		46.1		6.9		9.4		35.7		1.9	

Historical Trend

The mix of housing Redondo Beach has changed significantly since 1960. Whereas single-family detached housing once comprised over three-fourths (77.4 percent) of the City's housing stock, that figure has been reduced to considerably less than one-half (41.1 percent) of all housing units.

Single-family attached housing (virtually non-existent in 1960) has increased to 12.9 percent of the City's housing stock. Lastly, multi-family housing (units of 2 or more) has increased as a proportion of the City's housing stock from less than one-fourth (22.6) to a 1990 figure of almost one-half of all housing units. This is evidenced by the fact that condominiums comprised a sizeable majority of all the units added to the housing stock between 1980 and 1990.

County Comparison

Redondo Beach is similar to Los Angeles County in that single-family detached homes comprise less than one-half of its housing stock. The City has a higher percentage of single-family detached housing and two- to four-unit complexes, however, the County has a higher percentage of larger complexes and mobile homes.

Sub-Area Comparison

In the North Redondo sub-area, 47.5 percent of all housing units are single-family detached units. This compares with only 34.8 percent single-family detached housing units in South Redondo. In contrast, 44.8 percent of all housing units in the South Redondo sub-area are in complexes of 5 units or more, as compared with only 17.6 percent of the units in North Redondo. These sub-area comparisons are shown in (Table 15).

Table 15

HOUSING UNITS BY SUB-AREA (1990)				
<u>Housing Type</u>	<u>North Redondo</u>	<u>%</u>	<u>South Redondo</u>	<u>%</u>
Single Family Detached	6,651	47.5	4,955	34.8
Single Family Attached	2,311	16.5	1,332	9.4
2 - 4 Units	2,478	17.7	1,570	11.0
5+ Units	2,467	17.6	6,364	44.8
Mobile Homes	92	0.7	0	0.0

Housing Tenure

Of the 26,717 occupied housing units in Redondo Beach in 1990, 46.4 percent were owner-occupied and 53.6 percent were renter-occupied. Housing tenure historical trends are shown in (Table 16).

Table 16

HOUSING TENURE HISTORICAL TREND					
<u>Year</u>	<u>Owner-Occupied Units</u>	<u>%</u>	<u>Renter-Occupied Units</u>	<u>%</u>	<u>Total</u>
1960	8,578	59.1	5,944	40.9	14,522
1970	8,362	44.5	10,433	55.5	18,795
1980	9,446	38.3	15,191	61.7	24,637
1990	12,390	46.4	14,327	53.6	26,717
L.A. County		48.2		51.8	

Historical Trend

The trend of owner-occupied versus renter-occupied housing units has reversed itself over the 1960-1990 period. In 1960, owner- and renter-occupied units represented 59.1 percent and 40.9 percent of all occupied housing units, respectively. This is in sharp contrast to the 1990 figures of 46.4 percent owner-occupied and 53.6 percent renter-occupied housing units.

County Comparison

Redondo Beach and Los Angeles County both have more renter- than owner-occupied housing. As noted in Table 16, the proportions of tenure are similar as well.

Neighborhood Comparison

There is some difference in the number of owner- and renter-occupied housing units within different parts of the City. In North Redondo, 51.8 percent of all occupied housing units are owner-occupied, with the remaining 48.2 percent renter-occupied. This compares with only 40.6 percent owner-occupied units in South Redondo, with 59.4 percent renter- occupied. These sub-area comparisons are shown (Table 17).

Table 17

HOUSING TENURE BY CITY SUB-AREA				
<u>Housing Tenure</u>	<u>North Redondo</u>	<u>%</u>	<u>South Redondo</u>	<u>%</u>
Owner-Occupied Units	7,133	51.8	5,257	40.6
Renter-Occupied Units	6,652	48.2	7,702	59.4
Total Occupied Units	13,785	100.0	12,959	100.0

Table 18

HOUSING TENURE BY GEOGRAPHIC AREA						
<u>Housing Tenure</u>	<u>Redondo Beach</u>	<u>%</u>	<u>South Bay</u>	<u>%</u>	<u>Los Angeles County</u>	<u>%</u>
Owner-Occupied Units	12,390	46.4	99,002	50.8	1,440,830	48.2
Renter-Occupied Units	14,327	53.6	95,950	49.2	1,548,722	51.8
Total Occupied Units	26,717	100.0	194,952	100.0	2,989,552	100.0

Table 19

VACANT HOUSING UNITS					
<u>Year</u>	<u>Vacant Units for Sale or Rent</u>	<u>%</u>	<u>Total Vacant Units</u>	<u>%</u>	<u>Total</u>
1960	832	5.3	1,057	6.8	15,579
1970	831	4.1	1,456	7.2	20,251
1980	874	3.4	1,230	4.8	25,867
1990	1,111	3.9	1,503	5.3	28,220

Region Comparison

While as a whole, Redondo Beach has more renter- than owner-occupied housing units, this is not the case for the South Bay region. Among South Bay Cities, 50.8 percent of all occupied housing units in the region are owner-occupied, while 49.2 percent are renter-occupied. Geographic comparisons are found in (Table 18).

Vacancy Rates

The vacancy rate is an important statistic relative to housing because it gives an indication of how much housing is available for occupancy within a community. Vacancy rates can also be reflective of the local balance between housing supply and demand. This, in turn, can affect the cost of housing.

Vacant housing units are classified according to several different categories. The most important categories are "Vacant for Sale" and "Vacant for Rent." These categories represent units that are on the market and available for occupancy.

In 1990, there were 1,111 vacant housing units in Redondo Beach for sale or rent, representing a vacancy rate of 3.9 percent. The total for all types of vacant housing units was 1,503, representing an overall vacancy rate of 5.3 percent. Vacancy rates for the planning period 1960-1990 are shown in (Table 19).

Historical Trend

Redondo Beach has experienced a steady downward trend in its housing vacancy rates over past decades. The 1990 rate of units for sale or rent represents a drop of more than 26.4 percent from the 1960 rate. The overall vacancy rate has decreased by 22.1 percent.

2.2.3 Housing Needs

This portion of the Housing Element examines several types of housing needs and the extent to which they exist in Redondo Beach. Housing needs are divided into two categories: those that currently exist, and those that are projected to occur in the future.

Existing Needs

The assessment of existing housing needs is intended to identify how well Redondo Beach's housing stock is fulfilling the housing needs of the City's residents. This involves the following aspects:

- (1) *Affordability*: This part examines the number of housing units that are available in different cost ranges, and how this compares to the ability of households in the City to afford housing based on income.
- (2) *Special Households*: This part examines households that have special housing needs, including the elderly, the handicapped, large families, families with a female head of household, and families and persons in need of emergency shelter.
- (3) *Habitability*: The number of housing units in the city's housing stock that are in poor repair and need to be rehabilitated or replaced.
- (4) *Overcrowding*. The number of housing units that are inhabited by more persons than they can reasonably accommodate.

Affordability

Cost of Rental Housing

Distribution of Units by Rent Categories

The detailed breakdown of Redondo Beach rental units by rent ranges is indicated (Table 20). According to the Department of Housing and Urban Development (HUD) 1990 estimates, a low-income household could afford rent up to \$585. Only 2,091, or 14.6 percent of the rental units are in this general range (0 - \$599).

Table 20

CONTRACT RENT LEVELS RENTAL HOUSING UNITS (1990)		
<u>Rent Range</u>	<u>Renter-Occupied Housing Units</u>	<u>Percent</u>
No cash rent	167	1.2
Less than \$100	15	0.1
\$100 - \$ 199	100	0.7
\$200 - \$ 299	191	1.3
\$300 - \$ 399	284	2.0
\$400 - \$ 499	373	2.6
\$500 - \$ 599	961	6.7
\$600 - \$ 699	2,076	14.5
\$700 - \$1,000	6,849	47.8
\$1,000 or more	3,221	22.5
Total	14,327	100.0

Area Comparisons

The median rent level for a housing unit in Redondo Beach in 1990 was \$828. This median rent level is almost 1.5 times the level for Los Angeles County. In Redondo Beach, only 8 percent of the total rental units are within the less expensive range of under \$500, compared to 36.7 percent for Los Angeles County (Table 21).

Table 21

COMPARATIVE RENT LEVELS (1990)					
<u>Rent Level</u>	<u>North Redondo</u>	<u>South Redondo</u>	<u>Redondo Beach</u>	<u>South Bay</u>	<u>L.A. County</u>
No Cash Rent	0.9%	1.3%	1.2%	1.4%	1.6%
\$ 0 - \$ 249	1.3%	1.3%	1.3%	2.4%	6.0%
\$250 - \$ 499	4.8%	6.0%	5.5%	11.7%	29.1%
\$500 - \$ 749	34.3%	27.1%	30.4%	42.3%	41.3%
\$750 - \$ 999	37.6%	40.3%	39.0%	25.9%	14.7%
\$1,000 or more	21.1%	23.9%	22.6%	16.3%	7.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Median Rent	\$818	\$836	\$828	\$649	\$570

Rental housing is also more expensive in Redondo Beach compared to the South Bay area; however, the differences were less pronounced. Generally, the South Bay has a greater proportion of units in the middle \$250 - \$499 range, while Redondo Beach has a greater proportion in the more expensive \$750 or more range. The differences between rent levels in North Redondo Beach and South Redondo Beach are nominal.

Value of Owned Housing Units

As indicated (Table 22), the median value of a Redondo Beach owner-occupied housing unit in 1990 increased by more than three times the 1980 median value. A median-priced house in Redondo Beach is now 1.5 times more expensive than a median-priced house in Los Angeles County.

It is interesting to note, however, that Redondo Beach actually has a lesser proportion of more expensive homes compared to Los Angeles County. As indicated (Table 23), 8.7 percent of the owner-occupied housing units in Redondo Beach were valued at \$500,000 or more, compared to 11.8 percent for Los Angeles County.

Table 22

MEDIAN HOUSING VALUES				
<u>Year</u>	<u>Redondo Beach</u>	<u>Percent Increase</u>	<u>Los Angeles County</u>	<u>Percent Increase</u>
1960	\$ 13,800		\$ 15,900	
1970	\$ 24,000	73.9	\$ 24,300	52.8
1980	\$113,500	372.9	\$ 88,000	262.1
1990	\$348,300	206.9	\$226,400	157.3

Table 23

HOUSING VALUES (1990)		
<u>Value</u>	<u>Specified Owner-Occupied Housing Units</u>	<u>Percent</u>
Less than \$100,000	121	1.3
\$100,000 - \$199,999	368	3.8
\$200,000 - \$299,999	2,288	23.6
\$300,000 - \$399,999	4,282	44.2
\$400,000 - \$499,999	1,787	18.4
\$500,000 or more	843	8.7
Total	9,689	100.0

The figures also demonstrate, though, that a house in Redondo Beach is continuing to get even further beyond the reach of a moderate-income household (**Table 24**). As a general rule, the price of an affordable house is considered to be equivalent to three times a household's annual income. Based on this, a total of 20.2 percent of the owner-occupied housing units in Redondo Beach in 1980 were within the affordability range of moderate-income households. In 1990, however, only a mere 2.3 percent (221 of 9,689 units) were of a value affordable to moderate-income households.

Table 24

COMPARATIVE HOUSING VALUES (1990)					
<u>Housing Value</u>	<u>North Redondo</u>	<u>South Redondo</u>	<u>Redondo Beach</u>	<u>South Bay</u>	<u>L.A. County</u>
Less than \$250,000	13.3%	9.1%	11.9%	20.9%	57.4%
\$250,000 - \$499,999	83.6%	71.8%	79.4%	51.5%	30.8%
\$500,000 or more	3.1%	19.0%	8.7%	27.5%	11.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Median Value	\$325,414	\$404,933	\$348,300	\$378,931	\$226,400

Affordability Needs

Providing housing that is affordable to the City's households is one of the most important of all housing issues. Without sufficient affordable housing within the community, some households must either pay more than they can reasonably afford for housing, accept inadequate accommodations, or relocate outside of the community. This section examines the number of households in Redondo Beach that overpay for housing and how the cost of housing in Redondo Beach compares to the ability of the City's households to pay for housing.

Overpayment

By definition of state and federal housing agencies, a household is considered to be overpaying for housing if its housing costs exceed 30 percent of its gross monthly income. Estimates of the number of overpaying local households 1988 by tenure and income range are indicated (**Table 25**). Very low-income and low-income figures were established by the SCAG Regional Housing Needs Assessment (RHNA), and are based on an update of 1980 Census information. Moderate-income figures were established by the City based on the same methodology used in the RHNA. Upper-income figures were not established.

Table 25

TOTAL HOUSEHOLDS OVERPAYING FOR HOUSING BY INCOME CATEGORY (1988)			
<u>Income Category</u>	<u>Overpaying Owner-Occ. Households</u>	<u>Overpaying Renter-Occ. Households</u>	<u>Total Overpaying Households</u>
Very Low	308	1,606	1,914
Low	224	1,555	1,779
Moderate	446	1,436	1,882
Total	978	4,597	5,575

As indicated by Table 25, the renter-occupied households constituted the large majority of the overpaying households in each income category. Part of the reason for this is that there are more renter-occupied than owner-occupied households overall in the lower income categories. Furthermore, the large majority of the low- and moderate-income owner-occupied households are likely those that have resided in their homes for extended period of times and are paying historical mortgage rates. Table 25 also indicates that there exists similar and sizeable numbers of overpaying households in all three income categories. It is apparent from this data that there are substantial numbers of households in Redondo Beach that pay more than they can reasonably afford for housing, whether it be by necessity or choice.

Cost of Housing Compared to Ability to Pay

Although overpayment for housing is an important statistic, it is not entirely reflective of the differences between the cost of Redondo Beach housing units and the collective ability of the City's households to pay for it. Some households that are overpaying for housing may be doing so by choice because they desire accommodations that are not available at an affordable cost. Other households may be attracted to Redondo Beach as a place to live and are willing to pay more in order to do so. Yet other households may have to overpay because too many affordably-priced units have been absorbed by households that could afford more expensive accommodations.

This section examines the number of renter- and owner-occupied households in various income ranges compared to the number of housing that affordable in the same ranges. The purpose of this is to estimate the minimum number of housing units that are needed in various cost ranges in order to bring the cost of housing in Redondo Beach in line with the ability of the City's households to pay for housing.

As indicated, there is a deficiency of 3,904 local rental units affordable to households in ranges up to \$25,000, which would be the very low- and low-income categories (Table 26).

Table 26

COST OF RENTAL HOUSING COMPARED TO AFFORDABILITY NEEDS OF RENTER HOUSEHOLDS				
<u>Income Range (\$000s)</u>	<u>Number of Households In Income Range</u>	<u>Range of Monthly Affordable Housing Costs</u>	<u>Number of Housing Units In Cost Range</u>	<u>Number of Additional Units Needed In Cost Range</u>
Less than \$5	797	Less than \$125	35	762
\$5 - \$10	1,251	\$125 - \$250	154	1,097
\$10 - \$15	1,328	\$250 - \$375	332	996
\$15 - \$20	1,419	\$375 - \$500	458	961
\$20 - \$25	1,527	\$500 - \$625	1,439	88
\$25 - \$30	1,300	\$625 - \$750	2,973	
\$30 +	6,705	\$750 - \$875	8,936	
Total	14,327		14,327	3,904

As indicated, there is a deficiency of 3,778 owner-occupied units affordable to households in ranges up to \$30,000 (Table 27). This, however, is less of a significant problem since most of the lower-income owner-occupied households possess title or are paying historical mortgage rates.

Table 27

COST OF OWNER-OCCUPIED HOUSING COMPARED TO AFFORDABILITY NEEDS OF OWNER-OCCUPIED HOUSEHOLDS				
<u>Income Range (\$000s)</u>	<u>Number of Households In Income Range</u>	<u>Range of Monthly Affordable Housing Costs</u>	<u>Number of Housing Units In Cost Range</u>	<u>Number of Additional Units Needed In Cost Range</u>
Less than \$5	405	Less than \$125	6	399
\$5 - \$10	690	\$125 - \$250	24	666
\$10 - \$15	797	\$250 - \$375	39	758
\$15 - \$20	636	\$375 - \$500	22	614
\$20 - \$25	685	\$500 - \$625	24	661
\$25 - \$30	704	\$625 - \$750	24	680
\$30 +	8,473	\$750 - \$875	12,251	
Total	12,390		12,390	3,778
Note: Because 1990 Census income is not yet available, income estimates from Urban Decision Systems, Inc. were used in this analysis. Income distributions from 1980 were used in allocating the number of households per income range. The subtotals for renter and owner-occupied households were further pro-rated slightly to be consistent with 1990 Census data for these variables.				

Analysis of Special Housing Needs

Housing element law requires localities to make adequate provision for the existing and projected needs of all economic segments of the community. Certain types of households, however, have unique housing needs that warrant special consideration. As identified in the State housing element law, these households include large families, elderly and handicapped households, families with female head of households, and families and persons in need of emergency shelter. The following is an assessment of the level of need for these types of households in Redondo Beach.

Handicapped

The local Social Security District office supplied a count of 685 persons within their service area (which includes the Cities of Manhattan Beach, Redondo Beach, Hermosa Beach, and Lawndale) who were receiving supplemental security income for their handicapped condition. While exact city counts were not available, it is estimated that approximately one-third of these persons live in Redondo Beach - the largest of the cities in the service area.

Since eligibility requirements for this assistance program include an income of less than \$630 per month, while the median reported rent in Redondo Beach is \$828, it can be assumed that there are a number of handicapped households needing housing assistance. According to Disabled Services, Inc., a local service provider for the disabled, the estimated number of handicapped in Redondo Beach is approximately 1,058. While this figure is larger than the estimate given by the local Social Security office, it can be explained by the fact that handicapped persons, once they reach the age of 65, are no longer counted as handicapped but as elderly. As such, there is probably some double-counting between the handicapped and elderly population estimates.

The special housing needs of handicapped households typically include the need for units which are accessible. The requirement that residential units be physically accessible to handicapped persons is regulated by the Uniform Building Code and the State Building Code. Residential application of the requirements, however, is limited to apartment buildings with 5 or more units. Pending state adoption of federal law, this limit may be changed to apply to apartments, condominiums or townhomes with 4 or more units.

In 1987 the City initiated the Mobility Access Program. Funded through the City's Community Development Block Grant Program, this program provides lower income, disabled homeowners with repairs which improve access to the home and/or mobility within the home. Eligible repairs include installation of wheel chair ramps, grab bars, door handles and safety railings, widening of doorways, adjustment of light switches, and modifications to plumbing fixtures and cabinets.

Elderly

According to the 1990 Census, in Redondo Beach there are 5,436 persons age 62 or over, representing 9.0 percent of the City's population. Because many of the elderly must support themselves on a fixed income, the need for affordable housing is a concern for this particular group. The local Social Security District office supplied a count of 1,131 persons within their service area (which includes Manhattan Beach, Redondo Beach, Hermosa Beach, and Lawndale) who were receiving supplemental security income due to their age and financial need.

While exact city counts were not available, it is estimated that approximately one-third of these persons live in Redondo Beach - the largest of the cities in the service area. Since eligibility requirements for this assistance program include an income of less than \$630 per month, while the median reported rent in Redondo Beach is \$828, it can be assumed that there are a number of elderly households needing housing assistance.

Large Families

Large families are defined as those consisting of five or more persons in the same dwelling unit. This type of household accounted for 9.0 percent of the City's families in 1990, or 1,282 large families out of 14,204 households. Large family households typically need larger homes with extra rooms in order to avoid overcrowding. In Redondo Beach, this does not present a significant problem since 49.9 percent (14,081 of the City's 28,220 housing units) have five or more rooms, and the reported cases of overcrowding (discussed in the section on overcrowding) are very few.

Farmworkers

The Regional Housing Allocation Model developed by SCAG has produced a rough estimate of the number of farm work households needing assistance within the City of Redondo Beach. SCAG first assumed that Redondo Beach would have the same proportion of farm workers to general population as does the County. They also assumed that, like the County, 90 percent of all farm worker households are low income and overpaying. This methodology produced an estimate of 25 farm worker households in need for the City in 1980. Adjusted figures for 1990 estimate the population of farmworkers in the City at 26.

Families with Female Heads of Household

There are 5,390 female headed households in the City of Redondo Beach out of total of 26,717 households. This represents 20.2 percent of all the households in the City. According to the 1990 Census definitions, households include all persons who occupy a housing unit.

There are 2,394 families with female heads of households out of a total of 14,204 families. This represents 16.9 percent of all the families in the City. According to 1990 Census definitions, family households include a householder and one or more other persons living in the same household who are related to the householder by birth, marriage, or adoption.

Families and Persons in Need of Emergency Shelter

According to the 1990 Census, Redondo's homeless population, categorized as those "visible in street locations", was estimated at 29 persons. This estimate is consistent with the figure given by the South Bay Homeless Coalition.

Quantifying homelessness is problematic since it may be a temporary state due to a crisis or involuntary displacement, and because a homeless person will not necessarily be confined to a particular locale. While people who sleep on the street or in parks are thought of as the "homeless", a true figure should also include persons living without adequate shelter.

Currently there are no shelters for the homeless in Redondo Beach. There are, however, a number of organizations which provide help in the form of food and clothing to those in need. Some of these organizations, among them St. James Church and the Salvation Army, will also make referrals for shelter to those in need.

Habitability and Housing Stock Condition

The habitability of housing refers to its structural condition and its ability to provide safe and decent shelter for its inhabitants. In order to be considered satisfactory, a housing unit should be in sound state of structural repair and should provide all of the standard types of housing facilities.

The most recent quantitative estimate of substandard housing in Redondo beach was a housing condition survey completed during the period August-October 1990. The survey was completed by the City's Housing Inspector/Estimator with assistance from other staff.

The targeted housing stock for the survey was older single-family residential structures. Citywide, one out of every four single-family units was surveyed using the classifications listed below. In total, 3,488 dwelling units were surveyed. Survey results are summarized (Table 28)

In order to assist homeowners in need of rehabilitation, the City administers number of programs, among them the Handyperson program, the Landlord Loan Program, the Rental Rehab program, and the Mobile Home Rehab Program.

Table 28

SURVEY OF HOUSING REHABILITATION NEEDS (1990)		
<u>Classification</u>	<u>Number</u>	<u>Percent</u>
Total Dwelling Units Surveyed	3,488	100.0%
No Rehab Needed	1,121	32.1%
Minor Rehab Needed	150	4.3%
Moderate Rehab Needed	2,199	63.0%
Substantial Rehab Needed	18	0.5%
Dilapidated Structures	0	
Total Units In Need of Rehab	2,367	67.9%

Overcrowding

In addition to simply providing shelter, a housing unit should provide a reasonable degree of privacy for its inhabitants. According to guidelines set out by the State Department of Housing and Community Development, a housing unit is considered to be overcrowded if it is inhabited by more than one person per room. According to 1990 Census data on occupied housing units, overcrowding does not appear to be a significant problem in Redondo Beach. Out of a total 26,717 occupied housing units, only 4.1 percent, or 1,099 cases of overcrowding were reported. Where overcrowding does exist in Redondo Beach, it is likely that the majority of cases involve renter occupied housing units.

While the Census data indicates there are 1,099 reported incidents of overcrowding (more than one person per room), 800 of these, or 72.2 percent, are renter-occupied housing units. Of the overcrowded units in Redondo Beach, the majority (55.1 percent) fall within the 1.01 to 1.50 persons per room category. This information is summarized (Table 29).

Table 29

OVERCROWDED HOUSING UNITS		
<u>Category</u>	<u>Number</u>	<u>Percent</u>
Occupied Housing Units	26,717	100.0%
Overcrowded Units	1,099	4.1%
Units with 1.01-1.50 Persons/Room	605	2.3%
Units with 1.51-2.00 Persons/Room	365	1.4%
Units with 2.00 or More Persons/Room	129	0.5%
Owner-Occupied Overcrowded Units	299/1099	27.2%
Renter-Occupied Overcrowded Units	800/1099	72.8%

Energy Conservation Opportunities

A contributing factor to overall housing costs is the cost of gas and electrical utilities. As a result of sharp increases in these costs over recent years, the significance of utilities as a component of housing costs has increased considerably. Furthermore, the trend toward higher utility costs is expected to continue. The cost of household utilities, particularly heating and cooling costs, are highly dependent upon the severity of the local climate. Redondo Beach's climate, however, is very mild due to its location on the coastline of southern California. The effects of employing energy conservation measures in Redondo Beach, therefore, may not be as pronounced as would be the case in other regions.

Considerable opportunity for energy conservation retrofittings does exist because of the relatively old age of much of the City's housing stock. Due to the fact that a large percentage of the housing units in Redondo Beach were constructed before the enactment of State energy conservation construction requirements (1975), many of these homes were not constructed in an energy efficient manner.

The City's best strategy for effective energy conservation is to promote and encourage energy efficient retrofitting of existing homes. Among the more common types of retrofitting measures are weatherstripping and caulking of doors and windows and installation of insulation in ceiling and walls and around pipes.

In the plan check process for new construction, tasks to insure that energy conservation standards are complied with include:

- (1) Verification that the appropriate mandatory measures are on the plans;
- (2) Verification that what is modeled in the calculations match the plans and specifications; and
- (3) Verification that the plans, specifications, and calculations match the Certificate of Compliance.

As a means to promote and encourage this, the Building Division can provide information and advice as part of its normal public contact services. Also, public utility companies offer several energy conservation retrofitting techniques, on-site evaluation of conservation needs and rebates for conservation retrofitting costs.

The City's housing rehabilitation program can also be used to promote energy conservation by encouraging program participants to include retrofitting as part of the rehabilitation work. New development can also be encouraged to include solar heating and cooling systems to incorporate solar principles in the design and orientation of buildings.

2.2.4 Inventory of Housing Resources and Housing Constraints

Inventory of Land Suitable for Residential Development

As a mature city, the land use and development patterns of Redondo Beach have been long established. In addition, remaining vacant developable land consists of only isolated vacant lots. Because of this, opportunities for future housing development are limited to: 1) recycling land devoted to other types of uses to residential use, and 2) recycling residentially developed land to accommodate a higher number of housing units.

The Land Use Plan of the General Plan provides for a maximum capacity of 33,282 housing units. As of July 1, 1989 (the beginning of the Housing Element time frame), there was a total of 28,069 housing units in the City. The remaining citywide residential development capacity as of July 1989 was therefore 5,213 units. From July 1989 to August 1991, a net addition of 489 housing units was realized, adjusting the remaining residential development capacity to 4,724 units.

The breakdown of the sources and location of the housing development opportunities is shown (Table 30). As explained below, the 1992 General Plan Land Use Plan served to create a significant portion of the current housing development opportunities by establishing areas for mixed use development and by redesignating certain areas from commercial to residential use.

Table 30

Source	N. Redondo North of Artesia Blvd.	N. Redondo South of Artesia Blvd.	S. Redondo North of Torr. Blvd.	S. Redondo South of Torr. Blvd.	TOTAL
Residentially Designated Areas	714	1,034	416	172	2,336
Mixed Use Designated Areas	108	552	214	667	1,541
Redesignated Commercial Areas	0	0	49	201	250
Redesignated Industrial Areas	0	170	0	0	170
Recycling of School Sites	0	135	156	0	291
Recycling of Nonconforming Uses	54	147	171	253	625
TOTAL	876	2,038	1,006	1,293	5,213

It is important to realize that every residentially-designated site in the City would have to be redeveloped with the maximum allowable number of housing units in order to achieve all of additional housing units identified in **Table 30**. Since the City's Zoning Ordinance will be immediately revised to reflect the General Plan Land Use Plan, the indicated development opportunities could be pursued at any time. Recent experience has shown that, in the large majority of cases, new housing projects have been developed with the maximum allowable number of units.

Other factors, however, will influence whether or when nonconforming or underutilized sites will be redeveloped. Current economic conditions have had a dampening effect on the current pace of new housing development. Furthermore, sites which continue to support stable uses will be less likely to be recycled in a near-term time frame. Provided below is a discussion of the different categories of potential housing development listed in **Table 30**:

Residentially Designated Areas. Development potential in this category consists of underdeveloped lots within areas that have been historically designated for residential use. Additional housing units would be produced by the removal of the existing unit(s), and redevelopment of the lot with typically two to four units, depending upon lot size and zoning.

Mixed Use Designated Areas

As part of the Land Use Plan of the 1991 General Plan, six areas have been redesignated from strictly commercial use to mixed commercial and residential use. These six areas are:

- (1) Artesia Boulevard, from Aviation Way to Blossom Lane;
- (2) Salvation Army site, northwesterly corner of Catalina Avenue and Beryl Street;
- (3) Southwesterly corner of Pacific Coast Highway and Diamond Street;
- (4) Pacific Coast Highway, north and south of Torrance Boulevard; and
- (5) Pacific Coast Highway, easterly from Palos Verdes Boulevard to the City limits.
- (6) Galleria at South Bay and adjoining properties designated "CR" (Regional Commercial)

The development of a viable mixed-use project generally requires a larger site than that needed for commercial development alone. The possible need for site assemblage might impact the rate at which mixed use projects are actually developed. The areas that were designated for mixed use, however, were chosen in part because they contain sites of sufficient size to accommodate mixed use and/or they have good potential for recycling.

Redesignated Commercial Areas

The Land Use Plan of the 1991 General Plan changed the designation of two areas from commercial use to residential use. These two areas are:

- (1) Pacific Coast Highway, from Vincent Street to Garnet Street;
- (2) Pacific Coast Highway, from Ruby Street to Knob Hill Avenue
(with intermittent commercial areas at street corners).

Redesignated Industrial Areas

The Land Use Plan of the 1991 General Plan also changed the designation of three areas from industrial use to residential use. The location of these three areas are:

- (1) Area between Ruxton Avenue and the Santa Fe Railroad, south of Artesia Boulevard and north of Grant Avenue;
- (2) Portions of the area between Meyer Lane and High Lane, north of 190th Street; and
- (3) Area adjacent to the northwesterly corner of Fisk Lane and 190th Street.

These areas, which presently support various light industrial uses, are adjoined by existing residential areas and are considered to be desirable for transitioning to residential development.

Recycling of Former Public School Sites

This category includes the sites of two closed elementary schools that have been targeted for redevelopment as housing sites. The Andrews School site, on the westerly side of Aviation Way between the extensions of Vanderbilt Lane and Carnegie Lane, was redeveloped as a 135-unit senior citizens housing project in 1990 called "Heritage Pointe." This site is included in this discussion since the housing project was not completed prior to the July 1989 beginning of the Housing Element time frame. The second site is the former McCandless School located on the easterly side of Pacific Coast Highway between Emerald Street and Garnet Street. A 156-unit senior citizen congregate care project has been proposed for the site; however, different residential development proposals are presently being considered.

Recycling of Nonconforming Uses

Development potential in this category consists of miscellaneous sites within residentially-designated areas that currently support non-residential uses. This includes such uses as remnant commercial uses, churches, and oil wells. The possibility for new housing development to occur on sites within this category is highly variable depending upon the stability of the existing use.

Analysis of Governmental Constraints

Government housing regulations are necessary to assure that housing is constructed and maintained in a safe manner, to assure that the density and design of housing is consistent with community standards, and to assure that adequate infrastructure to support new housing is provided.

Nonetheless, government regulations can potentially have an inhibiting or constraining effect on housing development. This can be particularly true for low-income housing, which must be developed in a cost-efficient manner. Because of this, the Housing Element is required to evaluate government regulations in terms of any constraining effects they may have on housing.

In general, the City of Redondo Beach has not adopted regulations that are specifically intended to control the rate or amount of housing development that may occur (i.e., growth control measures). On a comparative basis, the fees, procedures, and requirements related to housing development in Redondo Beach do not appear to be excessive or highly restrictive. Redondo Beach residents, however, have become increasingly concerned over the impacts of new housing. Consequently, land use controls related to housing and residential development have undergone some strengthening over recent years.

Land Use Controls

The Land Use Plan of the General Plan and the Precise Land Use Plan (Zoning Ordinance) establish the permitted locations and densities for housing development within the City. Prior to the updated General Plan, existing zoning provided for a total capacity of 31,949 housing units at densities up to a maximum of 23.3 units per acre.

The updated General Plan increased the number of allowable housing units by 1,230 units to a total of 33,179 units. Existing residentially-zoned areas were preserved at or near their pre-existing allowable density levels. Rather than increasing densities in existing residential neighborhoods, the increase in development potential was primarily achieved by redesignating certain commercial and industrial areas to mixed use or residential use at densities ranging up to 28 units per acre or higher for selected sites (refer to preceding **Table 30** and ensuing discussion for details).

This strategy will help to accomplish several objectives: 1) it will continue to provide reasonable opportunities to accommodate new multiple-family housing; 2) it will establish selected areas for increased residential densities to enhance the affordability and range of housing opportunities available; and 3) it will help to maintain the basic character and scale of existing residential neighborhoods.

Since reasonable opportunities for additional housing development have been provided, land use controls are not viewed as a significant constraint to housing production. Where densities higher than those allowed are necessary and appropriate for the development of low- and moderate-income housing, the updated General Plan provides for granting density bonuses of up to 50 percent above the permitted density.

The updated General Plan and the Zoning Ordinance also establish development standards for housing. In general, these standards are not considered to be excessive. The Zoning Ordinance includes specific development standards for condominiums, including standards for open space, noise and vibration transmission, storage, parking, and utility hook-ups. While these standards may affect development costs, they are considered necessary to assure certain quality standards for multiple-family for-purchase housing.

The updated General Plan suggests additional design and development policies regarding the institution of an architectural design review process for residential construction. The overall intent of these proposed policies, however, is not to preclude new development but to provide opportunities for the development of additional housing while maintaining existing residential neighborhoods.

Building Codes

Building codes establish minimum standards for construction, which are essential for ensuring protection of the public health, safety and welfare. All building construction in Redondo Beach is subject to the requirements of Title 9 of the Redondo Beach Municipal Code and the Uniform Building Code, 1988 Edition. These requirements may result in some incremental increases in the cost of housing construction since stricter building requirements often increase construction costs. The purpose of imposing these requirements, however, is to maintain public safety.

Strict application of Uniform Building Code (UBC) standards to older, historical homes can have a constraining effect on the ability to maintain and improve the functional utility of these buildings in an economically feasible manner. This constraint could contribute to the loss of such homes and their replacement with less affordable housing. The State Historic Building Code addresses this problem by allowing exceptions to UBC requirements if health and safety requirements can be maintained. The Historic Building Code should be utilized by the City whenever possible. Beyond the Uniform Building Code, the City has adopted several ordinances which can affect the cost of housing construction:

- Ordinance 2476 - Required Undergrounding of Utility Service Wires;
- Ordinance 2512 - Flood Damage Prevention;
- Ordinance 2565 - Roof Coverings (fire ratings for residential buildings); and
- Ordinance 2637 - Fire Sprinklers for all Occupancies

These ordinances were adopted by the City of Redondo Beach for health and fire safety reasons (undergrounding utilities, fire sprinkling), or were required by local conditions (fire-resistant roofing in areas of few fire stations) or federal mandates (flood hazards).

Site Improvements

The State Subdivision Map Act and Title 10 of the Redondo Beach Municipal Code authorize the City to require public improvements for new development. These improvements typically include street and park dedications, curbs, gutters, sidewalks, and drainage improvements.

The requirement that developers provide public improvements may affect the cost of the housing produced. These requirements, however, are generally considered to be justified since they serve to mitigate the infrastructure and public service impacts generated by new housing.

In Redondo Beach, most housing development involves the recycling of sites where such improvements are already in place. Repairs or replacement of existing improvements might be occasionally required. Consequently, improvement requirements do not normally pose a significant constraint.

In the case of the Heritage Pointe senior apartment project, the City waived certain requirements and provided some of the necessary improvements itself. For other projects involving dedicated low- and moderate-income housing, certain site improvement requirements could be waived or reduced if necessary to ensure the economic feasibility of the project.

Fees and Other Exactions

The Department of Community Development is responsible for processing planning and building permit applications within the City. Fees are established to cover the cost of processing the permits.

Permit fees established by the City of Redondo Beach are, on the whole, generally less than fees established by other surrounding cities. With one exception (environmental assessments), planning and building fees for Redondo Beach are less than the average for a six-city sample (Table 31) (Table 32).

Many cities charge additional fees to cover the cost of added services required by new residential development, typically referred to as impact fees. The City of Redondo Beach has relatively few impact fees. These are park and recreation fees (\$400/unit), and sewer fees (\$50/unit). In some cases, these fees have been waived or reduced for projects with low- and moderate-income housing.

Table 31

COMPARISON OF 1991 PLANNING FEES					
	<u>Variance</u>	<u>Change of Land Use District</u>	<u>Conditional Use Permit</u>	<u>Tract Map</u>	<u>Environmental Assessment</u>
Redondo Beach	\$ 307	\$ 915	\$ 760	\$ 916	\$609
Hermosa Beach	\$ 925	\$1,200	\$ 600	\$ 920	\$295
Manhattan Beach	\$ 358	\$ 729	\$ 729	\$ 588	\$500
Torrance	\$1,056	\$1,056	\$1,056	\$1,056	\$792
Hawthorne	\$ 318	\$2,330	\$1,592	\$1,592	N/A
Lawndale	\$ 700	\$1,000	\$ 825	\$ 750	\$325
AVERAGE	\$ 611	\$1,205	\$ 927	\$ 970	\$504

Table 32

COMPARISON OF 1991 BUILDING FEES*			
	<u>Building Permit</u>	<u>Plan Check</u>	<u>Electrical Permit</u>
Redondo Beach	\$2,036	\$1,324	\$0.53/outlet
Hermosa Beach	\$2,423	\$1,575	\$0.57/outlet
Manhattan Beach	\$1,753	\$1,753	\$0.80/outlet
Torrance	\$1,263	\$1,200	\$0.70/outlet
Hawthorne	\$1,863	\$1,908	\$0.65/outlet
Lawndale	\$2,009	\$1,650	\$1.01/outlet
AVERAGE	\$1,891	\$1,568	\$0.71/outlet
* Based on a 2,000 square foot structure with assumed valuation of \$300,000.			

Local Processing and Permit Procedures

Building and planning permits involve plan checking for building, electrical and plumbing code compliance, and zoning compliance. Discretionary projects must also undergo environmental review pursuant to the California Environmental Quality Act (CEQA). Delays in permit processing can increase costs. The most common delays occur when building activity is high and the number of permits being processed increases. Since current building activity is relatively low, processing times have decreased. Estimated processing time for various permit processing services are shown (Table 33).

Table 33

CITY OF REDONDO BEACH PERMIT PROCESSING TIMES	
<u>Service</u>	<u>Estimated Processing Time</u>
Variance	1-2 months
Conditional Use Permit	1-2 months
Plan Check (Planning)	3 weeks
General Plan Amendment	4-6 months
Zone Change	2-3 months
Tentative Tract Map	2 months
Building Permit	6-8 weeks

Infrastructure

In approving new housing development, it is necessary to assure that infrastructure systems are capable of providing services at the level necessary to support the demand generated by new development. In the City of Redondo Beach, there are sufficient infrastructure systems and facilities in place to accommodate the level of residential development provided for in the General Plan. Such systems include sewers, water, drainage and roads.

Further information on carrying capacity can be found in Section 3.1 (Transportation and Circulation) and Section 3.2 (Utilities) of the General Plan. Also in these sections are documentation and analysis of existing infrastructure conditions within the City and the South Bay/Los Angeles Basin region, as well as projected conditions that can be expected as a result of the full buildout of the land use element.

Nongovernmental Constraints

Financing Costs

The cost of financing is one the single-most significant determinants in the affordability of housing. Especially for potential first-time homebuyers, the cost of financing can often represent the critical difference in being able to afford a home purchase. Fortunately in this respect, current interest rates are at their lowest level in several years, and the problem of prohibitively high interest rates has presently subsided.

Fixed-rate mortgages averaged 8.63 percent in November 1991, according to a survey released by the Federal Home Loan Mortgage Corporation. It was the lowest since April 19, 1974, when rates also averaged 8.63 percent. On one-year adjustable rate mortgages, lenders were asking an average initial rate of 6.34 percent, the lowest since the federal government began tracking adjustable rate mortgages in 1984. The rates do not include add-on fees known as points.

Rates among California financial institutions are somewhat higher. Mortgage financing for the purchase of single-family homes, duplexes, and condominiums in the City of Redondo Beach is provided by banks, mortgage companies, credit unions, and savings and loan institutions. Mortgage rates vary depending on the institution and on whether the loan is fixed or variable. Average rates for area banks, savings and loans, and credit unions are summarized (Table 34) for both fixed and variable rates of interest.

Table 34

COMPARATIVE MORTGAGE LOAN RATES NOVEMBER 1991		
<u>Institution</u>	<u>Fixed Mortgage Rate</u>	<u>Adjustable Mortgage Rate</u>
Banks		
Bank of America	9.01	8.65
First Interstate	9.07	7.72
Security Pacific	9.002	9.281
Wells Fargo	9.075	7.785
Savings & Loans		
American Savings	8.908	5.144
California Federal	8.85	9.27
Citibank	8.829	7.630
Great Western	8.83	9.17
How interest rates impact the overall cost of housing is demonstrated in the example below:		
Estimated Housing Price:		\$200,000
Twenty Percent Downpayment:		\$ 40,000
Mortgage Loan Amount:		\$160,000
Qualifying Income:		\$ 53,333
Interest Rate (30 Year Fixed):		9%
Financing Cost over Mortgage Period:		\$463,463
Total Cost:		\$503,463

How interest rates impact the overall cost of housing is demonstrated in the example below:

Estimated Housing Price:	\$200,000
20% Down Payment:	\$ 40,000
Mortgage Loan Amount:	\$160,000
Qualifying Income:	\$ 53,333
Interest Rate (30 Year Fixed):	
9% Financing Cost over Mortgage Period:	\$463,463
Total Cost:	\$503,463

Because of the high lending risk involved, lending institutions will sometimes refuse credit to certain income groups and/or within certain neighborhood areas. Since there are no highly dilapidated or very low income neighborhoods in Redondo Beach, the preclusion of credit within specified neighborhoods is generally not a problem. This is confirmed by Community Reinvestment Act reporting requirements for local area banks.

Price of Land

In coastal areas such as Redondo Beach, the single largest constraint to affordable housing is the price of land. According to area real estate brokers, residentially-zoned land prices in the City range from \$30 to \$40 per square foot, depending on density and, to a certain extent, geography. (quote from Matlow-Kennedy, David Mensinger) At these prices, the price of an acre of land could range from approximately \$1.3 million to \$1.7 million. When land prices constitute such an extremely high cost component, it poses a very difficult obstacle to the development of low- and moderate-income housing.

Cost of Construction

Construction costs are also a significant cost factor toward the development of affordable housing. Construction costs for condominiums in the area are estimated to range from \$60 to \$70 per square foot. For single-family residences, the costs are even higher, ranging from \$80 to \$100 per square foot, depending on the quality of construction. At these estimates, construction costs alone for an average-sized condominium range from \$60,000 to \$70,000, and single-family residences from \$80,000 to \$100,000.

Assessment of Current and Planned Programs

In attempting to establish the best direction for the City's future housing programs, it is useful to first identify and examine the programs that are currently available and what these programs have achieved.

Community Development Block Grant (CDBG) Program

The City of Redondo Beach receives an annual Community Development Block Grant (CDBG) entitlement of approximately \$500,000 from the United States Department of Housing and Urban Development (HUD). These funds are used for housing and community development projects which improve living conditions for low- and moderate-income persons. CDBG funds can be used for many housing activities including acquisition, demolition and clearance activities, rehabilitation, installation of utilities, counseling, and refinancing of existing debt. CDBG funds generally cannot be used directly for construction of new residential units, but certain exceptions exempt nonprofits from this limitation. Currently, CDBG monies received by the City support the Housing Improvement Program, in addition to various neighborhood improvement and public service programs. Over the past 15 years, approximately 31.5 percent of the City's CDBG funds have been spent on housing activities.

Redevelopment Low and Moderate Income Housing ("Set Aside") Fund

Since 1986, all redevelopment agencies have been required by California law to set aside in a separate housing fund not less than twenty percent of their tax increment revenue. These monies are to be used to increase and improve the supply of affordable housing for low and moderate income persons. The Redevelopment Agency may use any of its general powers in expending fund monies, including the power to: 1) acquire land or building sites; 2) provide on- or off-site improvements to land or building sites; 3) donate land to private or public persons or entities; 4) construct, acquire and/or rehabilitate buildings or structures; 5) provide subsidies to, or for the benefit of, low- and moderate-income households; 6) develop plans, pay principal and interest on bonds, loans, advances or other indebtedness, or pay financing or carrying charges; and 7) maintain the community's supply of mobile homes. The City of Redondo Beach Redevelopment Agency currently has a Housing Set Aside Fund balance of \$1.2 million. It is estimated that an additional \$4.2 million of set-aside funds will be generated through June of 1994.

Federal HOME and HOPE Program Funds

The Affordable Housing Act of 1990 will provide funding for local housing activities through two new federal programs, HOME and HOPE. Funding will be available in late 1991 or early 1992. The HOME Program provides funding for the rehabilitation, acquisition, and construction of affordable housing. Funds may also be used for tenant based rental assistance. Jurisdictions must supply matching funds, and must ensure that strict eligibility guidelines are met. Funding will be awarded on a formula basis using the most recent Census data. Based on 1980 Census data, the City may be eligible for up to \$580,000 in FY 1992. However, use of 1990 Census data may alter projected funding awards.

The HOPE Program provides funds to assist low-income, first-time home buyers. Assistance is targeted to tenants residing in federally-owned or public housing units. HOPE also provides rental and supportive service subsidies through an Elderly Independence Demonstration Program. Funds will be awarded on a competitive basis. All jurisdictions qualifying for HOME or HOPE monies must submit a five-year Comprehensive Housing Affordability Strategy to the United States Department of Housing and Urban Development (HUD) for approval.

Section 8 Rental Assistance Program

The Section 8 Program, funded by the United States Department of Housing and Urban Development (HUD), is a program administered by the City's Housing Authority to enable qualified low-income tenants to lease privately-owned housing while paying no greater than 30 percent of their total income for rent. Approved program participants are issued certificates or vouchers which are then used to secure housing in privately-owned properties throughout the City. Housing units are inspected by the City for health and safety violations. If approved, the tenant and owner sign a lease agreement and the Housing Authority signs a housing contract with the owner. Between July 1984 and June 1989, a total of 112 new certificates or vouchers were secured from HUD, bringing the total available to 516.

Fair Housing Program

Since July 1986, the City of Redondo Beach has operated a comprehensive Fair Housing Program designed to help ensure that equal housing opportunities are available to all segments of the population. As part of the program, the City contracts with Westside Fair Council for referral and dispute resolution regarding housing discrimination complaints. Between July 1986 and June 1989, a total of 44 cases of possible cases of housing discrimination were referred to Westside for investigation and resolution. Another important component of the program is education. The following informational efforts were completed between July 1986 and June 1989:

Fair Housing Video: This 12-minute program, narrated by Dr. George Fischbeck of KABC television station, depicts various vignettes dramatizing three examples of discrimination. The video aired regularly on the City's local public access television station.

Fair Housing Brochure & Poster: An original brochure and poster were developed by the City. Over 3,000 of each were dispersed throughout the City at fairs, community events, and through a targeted mail campaign. Both items give basic information on fair housing laws, examples of discrimination, and encourage citizens to seek assistance when necessary.

Handyperson Program

Between July 1984 and June 1989, the City continued to operate the Handyperson Program. Funded through the City's Community Development Block Grant Program. This program provides very low income category homeowners with comprehensive exterior improvements and minor interior repairs to the home and property. All work is completed by the City's Handyperson Crew at no cost to the homeowner. Eligible improvements include roofs, windows, exterior painting, weatherstripping, fence and gate repair, tree and shrub trimming, caulking around sink basins and tubs, and replacement of faucet washers. The Handyperson Program served 93 housing units between 1984 and 1989.

Deferred Payment Loan Program

Between July 1984 and June 1989, the City continued to operate a Deferred Payment Loan Program. Funded through the City's Community Development Block Grant Program, this program provides lower-income homeowners with deferred-payment home improvement loans. Under the program, homeowners may borrow up to \$17,500 at a rate of 4 percent per year, simple interest. The loan becomes due and payable upon the sale of the property, a transfer in title, or when the property is refinanced. Eligible improvements include plumbing, rewiring, heating, roofing, painting, and correction of deferred maintenance. In July of 1987, the City consolidated the Homeowner Loan Program and Senior Deferred Payment Loan Program into the one described above. The Deferred Payment Loan Program served 70 housing units between 1984 and 1989.

Landlord Loan Program

Between July 1984 and June 1985, the City operated a program designed to help landlords rehabilitate property being rented to mostly low-income tenants. The maximum loan of \$2,000 per unit (maximum of eight units) were given for correction of code violations and other building improvements (rewiring, painting, roofing, plumbing, etc.). The Landlord Loan Program served a total of 17 housing units between 1984 and 1989.

Rental Rehab Program

In 1984, the City initiated the Rental Rehab Program. Funded by a yearly entitlement from the United States Department of Housing and Urban Development (HUD), the program provides no-interest deferred payment loans to the owners of residential rental units in an effort to rehabilitate and improve the quality of rental housing stock. Targeted units are those which are available and affordable to lower-income households. The Rental Rehab Program served a total of 41 housing units between 1984 and 1989.

Mobility Access Program

In 1987, the City initiated the Mobility Access Program. Funded through the City's Community Development Block Grant Program, this program provides lower-income, disabled homeowners with repairs which improve access to the home and/or mobility within the home. Eligible repairs include installation of wheelchair ramps, grab bars, door handles and safety railings, widening of doorways, adjustment of light switches, and modifications to plumbing fixtures and cabinets. The Mobility Access Program served a total of nine housing units between 1984 and 1989.

Mobile Home Rehab Program

In 1988, the City initiated the Mobile Home Rehab Program. The program, funded with both Community Development Block Grant (CDBG) and Redevelopment funds, provided residents of Cresta Mobile Home Park with both interior and exterior repairs to their mobile homes.

Examples of repairs provided included insulation of roofs, electrical rewiring, installation of energy-saving hot water tanks, replacement of water lines and drain lines, and general upgrading of interior finishes. These repairs were complemented by repairs provided by the City's Handyperson Crew (painting, new decks and stairs). These efforts resulted in greatly improved living conditions for a pocket of the City's low-income population, while helping to preserve one of the City's few remaining low-income home ownership options. The Mobile Home Rehab Program served a total of 24 housing units between 1984 and 1989.

A review and listing of the total activity that occurred under these various special local housing programs for the five year period from July, 1984 to June of 1989 (including the type of program, the number of housing units served, etc.) is provided in Table 35.

Special Reporting Requirements

Assisted Housing Developments Eligible to Change to Non-Low-Income Housing

California Government Code Section 65583(a)(8) requires Housing Elements to include a specific analysis of government-assisted low-income housing projects that may convert to market-rate housing due to the termination of subsidy contracts or expiration of other imposed affordability restrictions. Housing units in this situation have been termed "units at risk." For example, the analysis must identify low-income housing projects that have been restricted to low income housing uses because of HUD loans that now may become unrestricted through loan prepayment.

Table 35

REVIEW OF HOUSING REHAB ACTIVITIES JULY 1984 - JUNE 1989			
<u>Handyperson Program</u>		<u>Landlord Program</u>	
1984-85	12	1984-85	17
1985-86	20	1985-86	N/A
1986-87	25	1986-87	N/A
1987-88	24	1987-88	N/A
1988-89	<u>12</u>	1988-89	<u>N/A</u>
	93 units		17 units
<u>Deferred Payment Loan Program</u>		<u>Rental Rehab Program</u>	
1984-85	18	1984-85	0
1985-86	13	1985-86	0
1986-87	19	1986-87	7
1987-88	10	1987-88	22
1988-89	<u>10</u>	1988-89	<u>12</u>
	70 units		41 units
<u>Mobility Access Program</u>		<u>Mobile Home Rehab</u>	
1984-85	N/A	1988-89	24
1985-86	N/A		
1986-87	N/A		
1987-88	3		
1988-89	<u>6</u>		
	9 units		24 units

Table 36

CITY OF REDONDO BEACH GOVERNMENT-ASSISTED LOW-INCOME HOUSING PROJECTS POTENTIALLY "AT-RISK"			
Project Address	Casa de los Amigos	Seaside Villa	Heritage Point
	123 S. Catalina	319 N. Broadway	1801 Aviation Way
Owner Name, Address, Phone	Christ Episcopal 408 S. Broadway Redondo Bch 90277 (213)376-3457	Goldrich & Kest 5150 Overland Culver City 90230 (213)204-2050	Urban Housing Systems 11111 Santa Monica Bld Suite 350 Los Angeles 90025 (213) 575-4077
Type(s) of Govt. Assistance	HUD 236 Section 8	HUD 221(d)(4) Section 8	Redevelopment Set-aside
Type/Length of Affordability Controls	40 yr loan 20 yr prepayment option	40 yr loan No repayment option	15 yrs Automatic renewal option
Earliest Potential Conversion Date	1998	2002	2006
No. of Units	136	47	135
Tenant Type	Seniors	Seniors	Seniors
Bedroom Mix	136 1-br	47 1-br	104 1-br 31 2-br
Year Built	1978	1982	1991
Condition	Good	Good	Good

The three government-assisted low-income housing projects in the City of Redondo Beach are summarized (Table 36). Two of these projects, Casa de los Amigos and Seaside Villa, were subsidized through federal loans. The other project, Heritage Pointe, received local redevelopment set-aside financing. These three projects include a combined total of 318 units.

Only one of these projects, Casa de los Amigos, is potentially at risk of converting to non-low-income housing in the 1989-1999 planning period specified by the state for this analysis. This project received a federal Section 236 mortgage loan that is eligible for prepayment in 1998.

The owner of this project, however, has indicated that he does not intend to exercise the loan option and desires to keep the units affordable. This project includes 136 units, all of which are for senior citizens. The project also contains 53 units with Section 8 contracts that provide rent subsidies.

The two remaining projects have been determined to not be "at risk" for the 1989-1999 planning period. Seaside Villa, a 47-unit elderly project, received a Section 221(d)(4) loan in 1982. This is a 40-year loan which has no prepayment option. Therefore, the subsidy on this project is not due to expire until the year 2022. A total of 40 units in this project are under a Section 8 contract which may be renewed annually. The affordability restriction on the Heritage Pointe project does not expire until the year 2006, and has an automatic renewal option thereafter.

In summary, none of the City's assisted low-income housing projects appear to be at risk for the 1989-1999 planning period.

New Housing Units in the Coastal Zone

California Government Code Section 65588(c) requires each periodic revision of the Housing Element to report the results of the City's experience with state law related to the provision of low- and moderate-income housing within the Coastal Zone. California Government Code Section 65590 et. seq. requires new housing developments constructed within the Coastal Zone to provide low- and moderate-income housing units, where feasible, either as part of the proposed development or at another location within at least three miles of the Coastal Zone. Requirements also exist for the replacement of existing low- and moderate-income units when they are to be demolished or converted to another use.

These requirements first went into effect on January 1, 1982. Since that time, a total of 484 new housing units have been constructed within the Coastal Zone in Redondo Beach (the area oceanward of Pacific Coast Highway). This total included 51 new single-family homes, 30 units in projects of 2-3 units, and 403 units in projects of four or more units. None of these projects were required to provide low- and moderate-income housing pursuant to Government Code Section 65590.

Also since January 1, 1982, a total of 205 housing units have been authorized for demolition. This total includes 115 single-family homes, 30 units in complexes of 2-3 units, and 60 units in complexes of four or more units. It is not known how many, if any, of the demolished units were occupied by low- and moderate-income households; nor were any replacement housing units required for the demolished units.

The 1985 Housing Element cited high land costs as the reason for it not being feasible to require new or replacement low- and moderate-income units. The high cost of land in the Coastal Zone of Redondo Beach does, in fact, greatly affect the feasibility of producing low- and moderate-income housing.

If, however, density bonuses and/or sufficient other incentives or assistance were made available, low- and moderate-income units could potentially be provided in a feasible manner. In particular, the portions of Pacific Coast Highway being redesignated to residential use at 28 units per acre could provide sufficient density that, along with other assistance, could overcome the high land cost per unit that otherwise curtails feasibility.

With these possibilities present, the City should consider the available opportunities for providing low- and moderate-income housing in the Coastal Zone depending on the feasibility that is determined on a case-by-case basis evaluation of proposed housing developments.

2.2.5 Local Housing Program Objectives Summary

This section sets forth the City of Redondo Beach local housing program. The program has been divided into three principle areas of concern: 1) Housing Provision and Affordability; 2) Housing Accessibility and Special Needs; and 3) Housing Improvement and Maintenance. The overall intent of the housing program is to address and provide for as much of the City's identified housing needs as possible, while making the best use of the resources, funding, and programs that are available.

State law (California Government Code Section 65580 et. seq.) sets forth specific requirements for this section. In addition to the normal goals, objectives, and policies, state law also requires that quantified objectives be established for the maintenance, preservation, improvement, and development of housing. The quantified objectives are to establish the maximum number of housing units that can be constructed, rehabilitated, and conserved over the Housing Element's five-year time frame.

State law also requires the establishment of a five-year schedule of actions that the City of Redondo Beach will undertake to implement the policies and achieve the goals and objectives.

The current five-year Housing Element time frame specified by the state is July of 1989 to June 1994. The State Department of Housing and Community Development (HCD) has advised the City of Redondo Beach that, regardless of the timing of this General Plan revision, the City should continue to utilize the 1989-1994 planning period for its Housing Element.

Existing and Projected Needs and Quantified Objectives

One of the key requirements of the Housing Element is to identify the degree of housing needs that exist within the community, and to then estimate how much of the need will be fulfilled, which is referred to as a statement of quantified objectives.

Housing needs are divided into existing needs and projected, or future needs. Existing needs consist of the current deficiency in affordably priced housing units, which is represented by the number of households in different income ranges that pay more than they can reasonably afford for housing. Projected needs consist the number of additional housing units that are needed in various affordability categories to accommodate the City's assigned share of forecasted regional growth. The source of both the existing and projected housing needs utilized in the Housing Element is the Regional Housing Needs Assessment (RHNA) adopted by the Southern California Association of Governments (SCAG). The methodology used in the RHNA is described later in this section.

After establishing housing needs, it is then necessary to establish quantified objectives. In relation to the existing and projected housing needs described above, the quantified objectives are intended to establish the maximum number of housing units that the City anticipates could be produced in attempting to fulfill its identified needs. The Housing Element is also required to establish quantified objectives for rehabilitating and conserving housing units.

Summary of Existing Needs

Housing Development Needs. The Southern California Association of Governments (SCAG) defines existing housing needs as the number of very low- and low-income households that pay more than 30 percent of their gross monthly income for housing. For planning purposes, 30 percent of gross income is considered to be the most that a low to moderate-income household can reasonably afford for housing. Households that pay more than this amount are referred to as "overpaying households."

In the City of Redondo Beach, high land costs and other factors make it difficult for the private sector to develop new housing affordable to moderate-income households, as well as lower-income households. Because of this, moderate-income households are also included and identified as part of the City's existing housing needs.

Based on the preceding criteria, the City's overall housing need for existing households is estimated to be 5,575 units, which represents the total number of very low, low, and moderate-income overpaying households. In terms of providing for this need, it is unrealistic to believe that this entire need could be fulfilled within the five-year planning period of the Housing Element. Consequently, a goal of providing for three percent of the total need per year is considered to represent reasonable progress toward fulfilling the total existing need. Based on this, the existing housing need for the five-year time frame of the Housing Element has been established at 15 percent of the total need, which equates to 836 units.

Summary of Future (Projected) Needs

The Housing Element must also attempt to provide for new housing development to facilitate the City of Redondo Beach's assigned share of projected regional housing needs. By state law, the responsibility for determining a city's share of projected regional growth is assigned to the council of governments (COG) for each area. The COG for Redondo Beach is the Southern California Association of Governments (SCAG). The instrument through which SCAG has identified each City's share of projected regional housing need is the Regional Housing Needs Assessment (RHNA). The RHNA future needs estimate is comprised of three components.

The first is projected five-year household growth. This represents the City's assigned share of the total household growth expected to occur within the region, which was determined primarily on the basis of past growth trends. The RHNA model adopted for the City of Redondo Beach estimated the City's share of the five-year regional growth at 1,825 units.

The second component is a vacancy adjustment. This represents the additional number of housing units that would have to be provided to maintain an ideal vacancy rate (2 percent for ownership units and 5 percent for rental units) as the City grows. A total of 282 units were estimated to be needed for Redondo Beach to achieve an ideal vacancy rate.

The third component is a demolition adjustment. This represents the housing units that would need to be added to compensate for anticipated demolitions. For Redondo Beach, a total of 923 units were estimated to be needed for this purpose.

Summing these three components together results in an overall estimated future housing need of 3,030 units for the period between July 1989 and June 1994 (**Table 37**) (**Table 38**). The final step in the RHNA process is to divide the total future need into the number of units that are needed within the very low, low, moderate, and upper income categories. This process takes into account both the local and regional distribution of households by income category.

Table 37

CITY OF REDONDO BEACH REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) 1989-1994 FUTURE HOUSING NEEDS BY SOURCE OF NEEDS		
	<u>No. of Units</u>	<u>Percentage</u>
Share of Projected Regional Household Growth	1,825	60.2
Units Needed To Achieve Ideal Vacancy Rate	282	9.3
Units Needed To Replace Anticipated Demolitions	923	30.5
TOTAL FIVE-YEAR FUTURE HOUSING NEEDS	3,030	100.0

Table 38

CITY OF REDONDO BEACH REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) 1989-1994 FUTURE HOUSING NEEDS BY INCOME CATEGORY		
	<u>No. of Units</u>	<u>Percentage</u>
Very Low-Income Housing Needs	451	14.9
Low-Income Housing Needs	503	16.6
Moderate-Income Housing Needs	574	18.9
Upper-Income Housing Needs	1,502	49.6
TOTAL FIVE-YEAR FUTURE HOUSING NEEDS	3,030	100.0

Summary of Quantified Objectives

This section summarizes the City's quantified objectives toward fulfilling its identified five-year housing needs. It is critical to understand that the number of units quoted in this summary represent projected estimates only based on current trends and circumstances, as well as forecasts of potential program achievements (Table 39). The actual number of units to be generated will depend upon funding availability, development opportunities, and other related circumstances. These estimates are not intended to represent or be construed as formal commitments to producing the units quoted.

As evidenced in Table 39, achievement of all of the quantified objectives would allow the City of Redondo Beach to fulfill almost all (98 percent) of its five-year need for overall housing development. The quantified objectives, however, fall substantially short of fulfilling total identified needs for very low-, low-, and moderate-income households.

Table 39

QUANTIFIED OBJECTIVES FOR HOUSING PRODUCTION (1989-1994)					
<u>Program</u>	<u>Very Low Income Units</u>	<u>Low Income Units</u>	<u>Moderate Income Units</u>	<u>Upper Income Units</u>	<u>Total Units</u>
Heritage Pointe Project	---	28	107	---	135
McCandless School Site Project	---	31	---	125	156
Salvation Army Project	---	50	---	---	50
HARP Program	15	---	---	---	15
Ruxton Revitalization Area	20	20	45	117	202
Commercial Recycling	---	---	50	---	50
Mixed Use Development	10	25	75	140	250
Density Bonuses	10	20	---	---	30
New Section 8 Vouchers *	140	---	---	---	---
Coastal Zone Housing Reqs. *	---	---	10	---	---
Private Development	---	---	---	2,090	2,090
TOTAL	195	174	287	2,472	2,978
<u>Summary of Five-Year Needs</u>					
Future Needs	451	503	574	1,502	3,030
Existing Needs	287	267	282	---	---
TOTAL NEEDS	738	770	856	1,502	3,030
Percentage of Needs Anticipated To Be Fulfilled	26%	23%	34%	165%	98%
* These are units that will be made affordable to households in the designated income categories, but which are already existing units or are new units accounted for under "Private Development." Consequently, these units are included under the "Total Units" column.					

The obvious reason for this shortcoming is the combination of high needs at these levels and the considerable difficulty in overcoming the cost of producing such housing with available resources. This notwithstanding, the quantified objectives for the very low, low, and moderate income categories comply with state requirements in that they represent an estimation of the maximum number of units that can be provided while making the best use of the City's available resources (Table 40).

Table 40

QUANTIFIED OBJECTIVES FOR HOUSING REHABILITATION (1989-1994)	
<u>Program</u>	<u>Units</u>
Handyperson Program	112
Deferred Payment Loan Program	46
Mobility Access Program	46
Rental Rehab Program	81
Mobile Home Rehab Program	32
Historic Preservation Seismic Rehab Program	15
TOTAL	332
Total Need	7,167
Five-Year Need	1,075
Percentage of Need Anticipated to be Fulfilled	31%

It is the City's intent to continue to offer a variety of housing rehabilitation programs with variations in the type of work done and the types of housing units benefited. Despite these various efforts, a considerable need for housing rehabilitation will still remain. The City should therefore attempt to expand available rehabilitation programs whenever funding and other circumstances allow. Objectives for housing conservation involve those programs and policies that serve to preserve and maintain existing more affordable housing that might otherwise be lost. Programs that should help to encourage the preservation of various segments of the City's housing stock are listed (Table 41).

Table 41

QUANTIFIED OBJECTIVES FOR HOUSING CONSERVATION (1989-1994)	
<u>Program</u>	<u>Units</u>
Condominium Conversion Ordinance	250
Cresta Mobile Home Park	80
New Section 8 Vouchers	112
Landmark/Historic District Program	20
Land Use Plan Redesignations	195
TOTAL	657

2.2.6 Goals, Objectives, and Policies

Issue HOUSING PROVISION AND AFFORDABILITY

Goal *It shall be the goal of the City of Redondo Beach to:*

2A Provide housing opportunities to accommodate the needs of families of different economic levels who reside or are expected to reside in the City, while respecting the character and stability of existing residential neighborhoods.

Objective *It shall be the objective of the City of Redondo Beach to:*

2.1 Attempt to provide for the production of 2,978 additional housing units between July 1989 and June 1994 (as set forth in **Table 39**). Attempt to provide for the production of 195 very low-income, 174 low-income, and 287 moderate-income housing units between July 1989 and June 1994 (as set forth in **Table 39**) that will be compatible with surrounding uses and consistent with other goals, objectives, and policies.

Policies *It shall be the policy of the City of Redondo Beach to:*

2.1.1 Provide sufficient zoning and infrastructure capacity for no fewer than 30,176 total housing units (or 2,107 additional housing units between July 1989 and June 1994) to provide for the City's identified share of the regional housing need.

2.1.2 Create opportunities, where feasible and consistent with other planning objectives, for the production of mixed-use housing in order to provide greater diversification in the types of housing available and to create new opportunities for additional multiple-family housing.

2.1.3 Create new opportunities for the production of multiple-family housing units by providing for the transition of selected commercial and industrial areas to residential use, where it can be demonstrated that such transitioning is economically feasible and will reinforce the viability of any surrounding commercial areas, and where such housing can be designed to be compatible with surrounding commercial and industrial uses.

2.1.4 Pursue the identification and possible acquisition of suitable sites for the production of low- and moderate-income housing as opportunities may occur.

- 2.1.5 Consider acquiring or contributing toward the acquisition of existing apartment complexes for the purposes of converting such complexes to low- and moderate-income housing.
- 2.1.6 Encourage suitable sites to be utilized to the maximum extent practicable for the production of low- and moderate-income housing.
- 2.1.7 Encourage and cooperate with the private sector and other public agencies in the production of low- and moderate-income housing.
- 2.1.8 Permit the granting of density bonuses in accordance with the requirements of Government Code Section 65915, as it presently exists or may be amended. Further permit the granting of density bonuses of up to 50 percent above the otherwise allowable residential density for the development of low- and moderate-income housing in accordance with the provisions of Land Use Policy 1.50.1.
- 2.1.9 Consider the granting of non-financial incentives for the production of low- and moderate-income housing, such as "fast-track" permit processing, and the waiver or reduction of fees.
- 2.1.10 Utilize Redevelopment Low and Moderate Income Housing ("Set Aside") funds, Community Development Block Grant (CDBG) funds, HOME funds, and other available funding sources to produce additional low- and moderate-income housing in a manner that will benefit a variety of persons in accordance with their needs.
- 2.1.11 For cases involving the granting of discretionary incentives and/or financial assistance for the production of low- and moderate-income housing, assure that the degree of incentives and/or assistance granted is commensurate with the degree of public benefit derived in the form of affordable housing.
- 2.1.12 Require new housing developments constructed within the Coastal Zone to provide low- and moderate-income housing, where feasible, in accordance with the provisions of Government Code Section 65590(d) as it presently exists or may be amended.
- 2.1.13 Require the replacement of low- and moderate-income housing units in conjunction with the demolition or conversion of such units in the Coastal Zone in accordance with the provisions of Government Code Section 65590(b), as it presently exists or may be amended.

- 2.1.14 Prohibit, within the Coastal Zone, the demolition or conversion of any residential structure for purposes of a nonresidential use which is not "coastal dependent," unless the residential use is determined to be no longer feasible in accordance with the provisions of Government Code Section 65590(c), as it presently exists or may be amended. Residential uses which do not conform to the allowable uses in a zone shall constitute a basis for determining that the residential use is no longer feasible.
- 2.1.15 Maintain regulations to restrict the conversion of apartment complexes to condominiums in order to preserve the City's existing stock of rental housing.
- 2.1.16 Pursue measures to provide for the continued affordability of assisted housing developments that are eligible to change to non-low-income housing.
- 2.1.17 Maintain and pursue further expansion of the City's participation in the federal Section 8 rent subsidy program.
- 2.1.18 Allow for the reconstruction of existing nonconforming apartment complexes in residential zones in accordance with the stipulations of Land Use Policy 1.51.1 as a means to help maintain the City's stock of rental housing.

Issue **HOUSING ACCESSIBILITY AND SPECIAL NEEDS**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 2B Provide accessibility to safe and affordable housing for all segments of the community, including groups with special housing needs.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 2.2 Assure accessibility to housing for all persons regardless of race, religion, sex, marital status, ancestry, national origin, or color.

Consider and provide for the special housing needs of senior citizens, the physically challenged, large families, and single-parent households as necessary and appropriate.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 2.2.1 Promote non-discriminatory housing practices within the City.

- 2.2.2 Encourage sensitive design of improvements to accommodate the needs of the physically challenged to maximize the ease of accessibility.
- 2.2.3 Encourage new housing developments with units designated for the elderly and/or the physically challenged to be located in proximity to, or be otherwise readily accessible to public transportation and other essential services.
- 2.2.4 Continue to monitor and assess the housing needs of senior citizens and other groups with special housing needs.
- 2.2.5 Assist in providing for housing for those in need of emergency shelter, where practicable.

Issue **HOUSING IMPROVEMENT AND MAINTENANCE**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 2C Provide safe, quality housing for all residents of the City, and maintain and enhance the quality of residential neighborhoods.

Objective *It shall be the objectives of the City of Redondo Beach to:*

- 2.3 Accommodate opportunities for the production of additional housing while conserving and improving existing housing as a means to improve housing quality, maximize housing choices, and enhance affordability.

Attempt to conserve a total of 657 housing units
(as set forth in **Table 41**)

Attempt to rehabilitate a total of 332 housing units
(as set forth in **Table 40**).

Policies *It shall be the policy of the City of Redondo Beach to:*

- 2.3.1 Encourage adequate maintenance and repair of sound housing units.
- 2.3.2 Encourage rehabilitation or recycling of unsound and deteriorated housing units.
- 2.3.3 Provide for the conservation of existing sites for the location of mobile homes.

- 2.3.4 Provide financial assistance and programs, where feasible, for rehabilitating housing units in need of repair, with an emphasis on benefiting low- and moderate-income homeowners and renters.
- 2.3.5 Encourage the preservation of historic homes and residential buildings.
- 2.3.6 Promote public awareness of available rehabilitation assistance programs.
- 2.3.7 Attempt to increase public awareness of residential building regulations and standards.
- 2.3.8 Ensure that new housing units are constructed in an energy efficient manner.

2.3.7 Implementation Programs (Five-Year Action Program)

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Housing Element (Section) of the General Plan. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

Housing Provision and Affordability

- Revise the Precise Land Use Plan (Zoning Ordinance) to facilitate the production of no fewer than 30,176 total housing units (*Policy 2.1.1, 2.1.3*).

Anticipated Impact: Provision of sufficient zoning capacity to accommodate the City's identified share of the regional housing need.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Temporary implementation ordinance to be completed and adopted immediately following adoption of the revised General Plan; draft revised Zoning Ordinance to be completed within 18 months of the adoption of the General Plan.

- Revise the Precise Land Use Plan (Zoning Ordinance) to permit mixed-use projects (with necessary development standards) and rezone areas identified under the Land Use Plan for mixed-use projects (*Policy 2.1.2*).

Anticipated Impact: Estimated production of 10 very low-income, 25 low-income, 75 moderate-income, and 140 upper-income multiple-family housing units by 1994.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Temporary implementation ordinance to be completed and adopted immediately following adoption of the revised General Plan; draft revised Zoning Ordinance to be completed within 18 months of the adoption of the General Plan.

- When sites designated for mixed use development are proposed for development, consider the possibility of (1) offering incentives and/or assistance to provide for the production of low- and moderate- income housing as part of the project; or (2) acquiring and utilizing the residential development rights for low- and moderate-income housing where the developer is not interested in constructing housing (*Policy 2.1.2, 2.1.4*).

Anticipated Impact: More complete utilization of available multiple-family housing development opportunities.

Responsible Agency: Department of Community Services.

Financing: Department budget.

Time Frame: Ongoing.

- Utilize the Housing Acquisition and Rehabilitation Program (HARP), as funding permits, to acquire, rehabilitate, and convert existing apartment complexes to restricted low- and moderate-income housing units (*Policy 2.1.5, 2.1.10*).

Anticipated Impact: Acquisition, rehabilitation, and conversion of an estimated 15 units by June 1994.

Responsible Agency: Department of Community Services

Financing: Redevelopment Low and Moderate Income Housing Funds, Community Development Block Grant funds, other available public and private sources.

Time Frame: 1992-1994, as opportunities and funding permit.

- Investigate and consider the feasibility of acquiring or securing additional sites for the production of low- and moderate-income housing, including the potential need for site assemblage. This may also include acquiring or securing sites which support existing housing that could be converted to low- and moderate-income housing. Site assemblage shall not be permitted in areas where the combination of lots is otherwise prohibited (*Policy 2.1.4*).

Anticipated Impact: Possible creation of additional medium density housing development opportunities.

Responsible Agency: Department of Community Services.

Financing: Department budget.

Time Frame: Ongoing.

- Require redevelopment of the Ruxton Lane Revitalization Area to include units for low- and moderate-income housing (making use of a special land use policy allowing such housing in excess of 23.3 units per acre), unless it is demonstrated that it is not feasible to provide such units (*Policy 2.1.6*).

Anticipated Impact: Estimated production of 20 very low-income, 20 low-income, and 45 moderate-income housing units by 1994.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: As necessary as development proposals are submitted.

- Periodically notify non-profit and for-profit housing developers of the City's interest in developing low- and moderate-income housing, including the types of assistance and incentives potentially available (*Policy 2.1.7*).

Anticipated Impact: Maximizing the potential for proposals for developing low- and moderate-income housing.

Responsible Agency: Department of Community Services.

Financing: Department budget.

Time Frame: Ongoing.

- Revise the City's Density Bonus Ordinance to bring it into compliance with revised state law (Government Code Section 65915) and Land Use Policy 1.50.1 (*Policy 2.1.8*). Said revision shall provide for:
 - a. Granting of a 25 percent density bonus above the otherwise allowable residential density to a developer who proposes to construct at least (1) 20 percent of the total units of a housing development for lower-income households; or (2) 10 percent of the total units of a housing development for very low-income households; or (3) 50 percent of the total units in a housing development for "qualified residents" (senior citizens).
 - b. The potential granting of a density bonus of up to 50 percent above the otherwise allowable residential density for low- and moderate-income housing as determined to be necessary and appropriate by the City.

Anticipated Impact: Estimated production of 10 very low-income and 20 low-income housing units by 1994.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Completion of draft density bonus ordinance within six months of the adoption of the General Plan.

- Work cooperatively with private developers and other public agencies interested in the development of low- and moderate-income housing in the City. Offer available forms of programmatic financial assistance under the terms of the tenth implementation action under "Housing Provision and Affordability". Such financial assistance shall be further contingent upon the assisted developer or agency accepting a reasonable share of the financial risk and/or burden (*Policy 2.1.7*).

Anticipated Impact: Assurance that financial resources available to the City for low- and moderate-income housing shall be utilized in a reasonable and cost-effective manner.

Responsible Agency: Department of Community Services.

Financing: Redevelopment Low and Moderate Income Housing Funds, Community Development Block Grant funds, Other Available Sources.

Time Frame: Ongoing.

- When necessary and appropriate to provide for the feasibility of low- and moderate-income housing proposals, consider the granting of non- financial incentives such as "fast-track" permit processing, and waiver or reduction of fees (*Policy 2.1.10*).

Anticipated Impact: Further enhancement of the potential for production of low- and moderate-income housing units.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Ongoing.

- When considering a proposal for the production of low- and moderate-income housing involving the granting of discretionary incentives and/or financial incentives, perform a pro-forma analysis and/or other necessary analysis to determine that the degree of incentives and/or assistance provided is commensurate with the degree of public benefit derived in the form of the number affordable housing units produced, the income groups for which the units are targeted, and the duration of time that the units will be committed to being affordable (*Policy 2.1.7, 2.1.11*).

Anticipated Impact: Assurance that public incentives and financial assistance will not be granted in excess of what is necessary to provide for the viability of a proposed housing development, and assurance that maximum public benefit will be received.

Responsible Agency: Department of Community Services; Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Ongoing as necessary.

- Develop a strategy program for the use of the City's Low and Moderate Income Housing Fund established under Community Redevelopment Law ("Set-Aside Funds").

Said program shall establish priorities for the use and expenditure of Set-Aside Funds based on needs identified in the Housing Element (*Policy 2.1.10, 2.1.16*).

Anticipated Impact: Use of Set-Aside Funds in a manner that will most greatly benefit the low- and moderate-income housing needs of the City.

Responsible Agency: Department of Community Services.

Financing: Department budget.

Time Frame: Completion of strategy program by June 1992.

- Require that all proposed housing projects within the Coastal Zone consisting of four or more units be reviewed and evaluated in terms of the feasibility of providing a portion of the units for low- and moderate-income housing. Said evaluation shall consider density bonuses and other potential incentives. If determined to be feasible, provisions for low- and moderate-income housing shall be required as part of the project's approval (*Policy 2.1.12, 2.1.16*).

Anticipated Impact: Estimated production of 10 moderate-income housing units by 1994.

Responsible Agency: Department of Community Development, Planning Division; Department of Community Services.

Financing: Department budget.

Time Frame: Ongoing as necessary.

- Require all applications for the demolition or conversion of residential structures within the Coastal Zone to be referred to the Planning Division for the purposes of determining and implementing necessary requirements for the replacement of low- and moderate-income housing in compliance with Government Code Section 65590(b) and (c). This requirement shall not apply to the conversion or demolition of a residential structure which contains less than three housing units, or, in the event that a proposed conversion or demolition involves more than one residential structure, the conversion or demolition of ten or fewer housing units (*Policy 2.1.13, 2.1.14*).

Anticipated Impact: Preservation of existing low- and moderate-income housing opportunities in the Coastal Zone.

Responsible Agency: Department of Community Development, Planning and Building Divisions.

Financing: Department budget.

Time Frame: Ongoing as necessary.

- Maintain, implement, and revise (if necessary) the City's Condominium Conversion Ordinance (*Policy 2.1.15*).

Anticipated Impact: Conservation of an estimated 250 rental housing units.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Ongoing.

- Actively pursue additional federal Section 8 rent subsidy vouchers and certificates (*Policy 2.1.16, 2.1.17*).

Anticipated Impact: Approval of an additional 140 Section 8 vouchers and/or certificates by 1994.

Responsible Agency: Department of Community Services.

Financing: Department budget; U.S. Department of Housing and Urban Development (HUD).

Time Frame: Ongoing, as application cycles occur.

- Amend the Zoning Ordinance in conformance with Land Use Policy 1.51.1 to allow residential structures damaged or destroyed by accident which do not conform to prevailing density standards to be reconstructed to their pre-existing density (*Policy 2.1.18*).

Anticipated Impact: Protection of the City's supply of multiple-family housing.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Completion of draft revised ordinance within 18 months of adoption of the General Plan as a component of the comprehensive revision of the Precise Land Use Plan (Zoning Ordinance).

- Impose adequate requirements on privately-sponsored low- and moderate-income housing projects to assure that units will continue to be priced at intended cost levels and that occupancy requirements related to income and age will continue to be observed. Conduct periodical monitoring thereafter as necessary (*Policy 2.1.11*).

Anticipated Impact: Assurance that low- and moderate-income housing will continue to remain affordable and will be occupied by intended types of households.

Responsible Agency: Department of Community Development, Planning Division; Department of Community Services.

Financing: Department budget.

Time Frame: Ongoing as necessary.

Housing Accessibility and Special Needs

- Continue to provide funding support for and encourage utilization of the services of the Westside Fair Housing Council (*Policy 2.2.1*).

Anticipated Impact: Increased awareness and utilization of fair housing protections, attempted resolution of landlord-tenant disputes, investigation of housing discrimination claims.

Responsible Agency: Westside Fair Housing Council.

Financing: Community Development Block Grant Program, Redondo Beach Housing Authority.

- In reviewing proposals for City assisted or financed housing projects, consider the needs of senior citizens and other groups with special housing needs and encourage the inclusion of units for such groups when determined to be feasible (*Policy 2.2.4*).

Anticipated Impact: Provision of additional units designed and designated for senior citizens and other groups with special housing needs.

Responsible Agency: Department of Community Services, Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Ongoing as necessary.

- Ensure that housing projects with units for senior citizens and/or the physically challenged are designed with adequate consideration for physical needs of such groups, and that consideration is given to proximity to public transportation and other essential services (*Policy 2.2.2, 2.2.3*).

Anticipated Impact: Accommodation of the physical housing needs of senior citizens and the physically challenged to the greatest extent feasible.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: Ongoing as necessary.

- Give preference in offering Section 8 rent subsidy assistance to persons who are known to be homeless (*Policy 2.2.5*).

Anticipated Impact: Provision of permanent housing to homeless persons and families.

Responsible Agency: City of Redondo Beach Housing Authority

Financing: Department of Housing and Urban Development (HUD)

Time Frame: Ongoing.

- Provide funding assistance to the 1736 Family Crisis Center (*Policy 2.2.5*).

Anticipated Impact: Provision of emergency shelter to homeless persons and families.

Responsible Agency: Department of Community Services.

Financing: Community Development Block Grant funds

Time Frame: Annually, 1992-1994.

Housing Improvement and Maintenance

- Continue and pursue expansion of the Handyperson Program, Deferred Payment Loan Program, Rental Rehab Program, Mobility Access/Emergency Repair Program, and Mobile Home Rehab Program, and other programs to rehabilitate housing units in need of repair (*Policy 2.3.1, 2.3.2, 2.3.5*).

Anticipated Impact: Rehabilitation of an estimated 317 housing units by June 1994.

Responsible Agency: Department of Community Services.

Financing: Community Development Block Grant funds, Community Redevelopment funds.

Time Frame: Ongoing.

- Rezone the site of the Cresta Mobile Home Park for mobile home use (*Policy 2.3.3*).

Anticipated Impact: Conservation of 80 mobile home housing units.

Responsible Agency: Department of Community Development, Planning Division.

Financing: Department budget.

Time Frame: 1992, immediately following adoption of General Plan.

- Develop, adopt, and revise (as necessary) an incentive program for the preservation of historical homes (*Policy 2.3.5*).

Anticipated Impact: Conservation of an estimated 20 historical homes by June 1994.

Responsible Agency: Department of Community Development, Planning Division; Preservation Commission.

Financing: Department budget.

Time Frame: Ongoing, with revisions and expansion of program as available funding permits.

- Pursue the establishment of a low-interest loan program for seismic retrofitting of historical homes (*Policy 2.3.5*).

Anticipated Impact: Conservation and rehabilitation of an estimated 15 historical homes by June 1994.

Responsible Agency: Department of Community Development, Planning Division; Department of Community Services; Preservation Commission.

Financing: State Office of Historic Preservation, Certified Local Government Grant Program, Community Development Block Grant funds.

Time Frame: Establish program by 1992, implementation ongoing thereafter.

- Develop and implement policies and procedures for the inspection of historic structures damaged in an earthquake or other natural disaster that will assure that such buildings will not be unnecessarily or hastily demolished (*Policy 2.3.5*).

Anticipated Impact: Conservation of residential buildings damaged in an earthquake or other natural disaster.

Responsible Agency: Department of Community Development, Planning and Building Divisions; Preservation Commission.

Financing: Department budget.

Time Frame: Develop policies and procedures by 1992, implementation ongoing thereafter.

- Disseminate information to the public regarding building codes, rehabilitation standards, preventative housing maintenance, and energy conservation (*Policy 2.3.6, 2.3.7*).

Anticipated Impact: Increase in private housing maintenance and rehabilitation activities. Higher level of voluntary conformance with building code standards. Increase in energy conservation retrofitting and other energy conservation practices.

Responsible Agency: Department of Community development, Building Division.

Funding: Department budget.

Time Frame: Implement in 1992 and ongoing thereafter.

- Enforce Title 24 energy conservation requirements for residential construction (*Policy 2.3.8*).

Anticipated Impact: Assurance that all new housing units will meet adequate energy efficiency standards.

Responsible Agency: Department of Community Development, Building Division.

Financing: Department budget.

Time Frame: Ongoing.

SECTION 2.3

Senior Citizen Services / Child Care Services

2.3 SENIOR CITIZEN SERVICES AND CHILD CARE SERVICES

Background information and materials regarding existing facilities and programs for the provision of senior citizen services and child care services within the City of Redondo Beach, and, to a certain extent, the South Bay region, are provided in this section.

The City of Redondo Beach, through the Community Services Department, retained the private consulting firm of Castañeda & Associates, who completed a Child Care/Elder Care Needs Assessment and Service Strategies study in October, 1990. This document provides an overview and inventory of local citizen opinion and services provided relative to these subjects, and should be reviewed for a more thorough identification and understanding of the issues and trends in the community regarding this subject.

2.3.1 Senior Citizen Services

Due to the overall aging of the population and advances in medical technology, people are living longer and enjoying a more active lifestyle. This trend toward "living a fuller life longer" has drawn increasing private and governmental attention to serving the senior citizen population. More than ever before, senior citizens are being recognized as a sizable and valuable economic, social, and political force in our society.

The community service needs of the senior citizen population can be more substantial and specialized. The majority of senior citizens are retired or semi-retired. While senior citizens may enjoy more leisure time, they may also contend with fixed incomes and health limitations. Other specialized needs due to aging include affordable housing, health and day care, transportation, and recreation and social services. It is important for the City of Redondo Beach to address these needs, in order to provide the best possible quality of life for its older citizens.

1990 Census data indicated that 8,572 persons of the total City of Redondo Beach population were over 55 years of age (approximately 14 percent of the total population). A total of 4,337 of these persons were over 65 years of age (approximately 7 percent of the total population and approximately 51 percent of the 55 years or older population). Of the total population over 55 years of age approximately two thirds are female, an important consideration for planning and policy making.

Regulations/Guidelines

The provision of adult (senior citizen) day care services and facilities, like those of child day care services and facilities are primarily regulated and governed through the State of California Health and Welfare Agency Department of Social Services.

Existing Facilities/Membership

The majority of senior citizen services currently available in the City of Redondo Beach are administered by the Senior and Family Services Division of the City of Redondo Beach Community Services Department.

The Division maintains a comprehensive information and referral network, publishes several directories for specialized senior citizen needs, and plans activities and special events. The Division also administers four facilities throughout the City which provide or host senior citizens programs and clubs. The facilities and their approximate total annual "membership" or attendance levels are identified below:

<u>Center/Club</u>	<u>Address</u>	<u>Members</u>
Senior Activity Center Community Resources Center	320 Knob Hill Avenue	200
North Park Senior Citizen Club Anderson Park	3007 Vail Avenue	300
North Redondo Senior Citizen Club Perry Park	2308 Rockefeller Lane	100
Redondo Beach Senior Citizen Club Veterans Park	309 Esplanade	500
City-Wide Total	(Four Facilities)	1,100

The number of individuals served within the community or participating in one or more of the different programs, including club activities, special events information and referral services, totals approximately 3,000 senior citizens. Annual attendance at the four local centers is approximately 35,000.

The present City budget provides funding for two full-time staff and five part-time staff, operating through a \$30,000 program budget. Due to budget constraints, the administrator relies heavily on volunteers to assist in conducting the programs. Approximately 200 such volunteers assist in administering the programs, ranging from computer literacy, to bingo, to legal assistance efforts.

Existing Programs

Various information sources, programs, and services related specifically to senior citizens are presently offered by the City of Redondo Beach through the Community Services Department and related senior citizen facilities. These include, but are not limited to the following:

- The City of Redondo Beach, through its Community Development Department and Community Services Department, is sponsoring and otherwise assisting a number of local elderly housing efforts that will serve to increase the supply and availability of affordable elderly housing stock in the community.
- A comprehensive information referral service including a Senior Services Directory and Resource Booklet (first published in 1975) provides seniors information about private and public organizations offering a variety of senior citizen and related services.
- The four senior citizen facilities in the City (see above) are used to provide over one hundred informational and service programs. Examples of these programs are:
 - legal assistance
 - health maintenance
 - computer literacy
 - social events
 - information and referral
 - care coordination
 - tax assistance
- The Senior Aide Program, administered by the City of Redondo Beach Community Services Department, provides in home aides for frail elderly, low and moderate income residents. This program is funded entirely with Community Development Block Grant funds received from the federal government.
- Transportation to the senior centers is provided by The Wave, a community on-demand dial-a-ride service operating in the cities of Hermosa Beach and Redondo Beach. A total of 70 percent of the service's entire ridership is senior citizens and disabled persons. Residents 62 years of age or older and residents of any age with an impairment or disability may ride for a nominal one-way fee of \$0.50; the fee for the general public is \$1.00.

Opportunities/Major Issues

A single administrator presently oversees the efforts of all of the senior citizen programs in the community, as well as the 200-person volunteer staff, a majority of whom are themselves senior citizens. In order to maintain a high level of quality, while expanding the capacity and variety of the services being offered, additional staff and budgeting would be needed.

There are currently no senior or "adult" day care centers operating in Redondo Beach. There are, however, existing centers in Torrance and Gardena that are open

to Redondo Beach residents. The City is also currently working with the non-profit South Bay Adult Day Care Center, Incorporated, to provide a pilot adult day care program at the Senior Center located in Anderson Park.

The City is currently planning to operate a pilot senior lunch program. It is not currently known what the future opportunities or possibilities will be for the continuation and expansion of this program. Should the program be continued, it will necessitate additional budget allocations or the reallocation of existing budget resources from other existing programs.

2.3.2 Child Care Services

Recent local, regional, and national socioeconomic, demographic, and lifestyle changes have resulted in increased demand for "formal" child care services. The increase in full-time working mothers, necessity for the presence of two full-time incomes to support a family, evolution and changes experienced with the traditional family unit, and the sharp increase in single-parent families have all contributed to this situation.

To more and more parents, "formal" child care services are a daily necessity in life, not just a luxury to be used by the wealthy. The issue of child care has significant and far-reaching social, fiscal, and emotional ramifications, both in the short and long-term. These ramifications include potential impacts on the region and the nation's competitive economic position and potential impacts on the emotional and psychological state of our children, both during their childhood and child care experience and during adolescence/adulthood.

The demographic trends relative to this subject are somewhat modest, and do not, on the surface, bear out the tremendous recent increase in the actual demand for child care services. In 1990, 6.8 percent (or 4,076 of the 60,167 person resident population of the City at that time) was five years of age or younger. This represented an approximate 8 percent increase in that age category from the 6.3 percent of the total resident population which occupied the 0-5 years of age or younger age category in 1980. These recent totals represent a significant proportionate decrease (over 40 percent) since 1960 (the tail end of the baby boom), when almost 12 percent of the population of the City of Redondo Beach was 5 years of age or younger.

These percentages and demographics alone, however, do not reflect and/or explain the radical socioeconomic and lifestyle changes that have occurred during the period (see above) to impact the situation. Hence, although a far smaller percentage of the City's overall population falls within the age group eligible for child care, a far greater proportionate share of the age group needs child care, generating the tremendous "net" increase in the demand for such services.

Child care facilities and services in the City of Redondo Beach are provided through private entities and the Redondo Beach School District. Child care issues and liaison activities within the community are formally handled and managed by the City of Redondo Beach through the Community Services Department.

Definitions and Requirements

All child care facilities must be licensed by the State of California Department of Social Services. This licensing process is used to ensure compliance with minimum health and safety standards, operational standards, and qualifications for care providers, as set forth under state regulations. The City regulates child care facilities primarily through zoning, which specifies where child care facilities may be located and establishes appropriate development standards. As discussed below, however, state law places specific limitations on local zoning controls over family day care homes.

There are three basic categories of child care facilities, pursuant to specific state definitions:

- (1) Small Family Day Care Home: A private home in which child care services are provided for up to six children.
- (2) Large Family Day Care Home: A private home in which child care services are provided for seven to twelve children.
- (3) Day Care Center: Any child care facility other than a family day care home, including infant centers, preschools (nursery schools), and after-school child care facilities.

A key distinction between these is that family day care homes are operated out of private homes by an adult resident as a profit-earning venture. Resident children under ten years of age are included in establishing the number of children for which care is being provided. By contrast, day care centers are operated out of non-residential buildings such as commercial buildings, schools, and churches.

The special treatment extended under state law to family day care homes is derived from the belief that reasonable opportunities should be provided for children to receive day care in a home environment. The zoning regulations of some cities had previously constrained these opportunities. Consequently, the California Child Day Care Act now requires cities to permit small family day care homes to be operated out of any single-family residence without special City approvals. Furthermore, cities must permit large family day care homes in single-family residential zones through one of the following mechanisms:

- (1) classification as a permitted use;

- (2) granting of a non-discretionary permit subject to conformance with certain types of standards that may be adopted by the City;
- (3) granting of a permit subject to the determination of a zoning administrator (or similar person) with respect to conformance with standards established by State law.

The Redondo Beach Zoning Code currently does not directly address family day care homes. State law explicitly requires cities to treat small family day care homes in the same way as single-family dwellings. In the case of large family day care homes, the Zoning Code should be amended to establish which of the three above options the City will use to process applications for the operation of such facilities.

Existing Facilities

A survey contained within the 1990 Child Care/Elder Care Needs Assessment and Service Strategies study undertaken for the Community Services Department has identified the following child care facilities and family day care homes currently operating in the City of Redondo Beach.

(1) Child Care Centers

<u>Center/Facility</u>	<u>Clients</u>	<u>Address</u>
Adams Child Dev. Center	110	2600 Ripley Avenue
Betsy Marx Head Start	18	2606 Nelson Avenue
Coast Christian Schools	200	850 Inglewood
Coast Christian Schools	30	525 Earle Lane
Der Kinder Garden	65	2017-19 Artesia Boulevard
Garden Dominion School	130	320 Knob Hill
Lincoln's Children's Center	105	2223 Plant Avenue
Little Lambs Preschool	80	706 Knob Hill
Madison Child Care Program	100	2200 MacKay Lane
Playhouse Preschool	61	526 South Irena
St. Clare's Family Care Center	60	2223 Grant Avenue
Sunflower Preschool	53	2400 Nelson Avenue
Torrance Coop Nursery	31	2761 190th
Tulita Children's Center	117	1520 South Prospect
Tuvia Preschool	83	1101 Camino Real

The centers provide a varied assortment of activities and services, including art/music activities and instruction and field trips; several offer additional services including health/hygiene services and instruction, computer games/instruction, and/or language instruction. Average market-rate (non-subsidized) tuition for these facilities ranges from \$13.00 to \$17.00 per day. In general, the facilities are open from 7:00 am to 6:00 p.m.

(2) Large Family Day Care Homes

<u>Center/Facility</u>	<u>Clients</u>	<u>Address</u>
Fraser Family Day Care	12	1900 Clark Lane
Schimmel Family Day Care	18	1910 Havermeyer Lane
South Bay Infant Center	11	2230 Nelson Avenue

In general these facilities provide similar services to those at the Child Care Centers, and operate from 7:00 am to 6:00 p.m. Fees for these large family day care centers range from \$16.20 to \$37.50 per day. Schimmel Family Day Care technically has more than 12 children enrolled, but uses a revolving system where only six children are full-time and only 12 are at the facility at any one time.

(3) Small Family Day Care Homes

There are approximately fifty (50) small family day care homes in Redondo Beach. Small family day care homes are exempted by the State of California from siting regulations by the City (i.e., they can be located in any residential zone). Details of the operations of these facilities are also expressly protected by the State of California Privacy Act. For these reasons, the addresses of these homes cannot be made public.

2.3.3 Goals, Policies, and Objectives

Issue CHILD CARE SERVICES

Goal *It shall be the goal of the City of Redondo Beach to:*

4A Contribute (along with the private sector residential and business community and existing service providers) to the future development, implementation, and management of successful child care programs within the community.

Objective *It shall be the objective of the City of Redondo Beach to:*

4.1 Encourage the establishment of and continue to pursue programs, mechanisms, and liaison activities that will increase the provision of modern child care services in the community, in accordance with local and state codes.

Policies *It shall be the policy of the City of Redondo Beach to:*

4.1.1 Consider the development of liaison activities for child care services through the office of the Recreation and Community Services Department, as funding permits.

- 4.1.2 Continually monitor and analyze the overall needs of child day care-eligible population, in order to better meet the needs of this segment of the community.
- 4.1.3 Implement (where appropriate and feasible) through the Recreation and Community Services Department, the recommendations contained within the City-sponsored Child Care and Elder Care Needs Assessment and Service Strategies study.
- 4.1.4 Consider hiring a local child care coordinator who would act as the formal public liaison within the community, and would investigate all available funds and means for supporting child care activities.
- 4.1.5 Investigate the creation and implementation of additional marketing and information "reach-out" programs to better inform the local citizen population of the availability of child care services.
- 4.1.6 Encourage local public and private firms and businesses to examine the potential for establishing employer-sponsored or work-place located child day care services, and other employer-sponsored programs designed to ease family versus work demands.
- 4.1.7 Modify those portions of the local zoning code (Municipal Code) relative to the permitting and siting of large family day care homes, to allow such uses as a specifically permitted use, consistent with state requirements and regulations.
- 4.1.8 Incorporate, where feasible, child care facilities or components of child care facilities (i.e., open space) in future planning for the use of the City's recreation facilities and surplus government facilities, with the reuse of school sites subject to the provisions of California Government Code Section 65852.9.
- 4.1.9 Pursue the acquisition and installation of additional pre-school aged play equipment in local public open space, in order to promote the use and enjoyment of these facilities by this segment of the population.
- 4.1.10 Pursue the creation and implementation of additional after school services and activities for children.

Issue **SENIOR CITIZEN SERVICES**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 4B Contribute (along with the private sector residential and business community and existing service providers) to the future development,

implementation, and management of successful senior citizen programs within the community.

Objective It shall be the objective of the City of Redondo Beach to:

- 4.2 Establish and continue to pursue programs, mechanisms, and liaison activities that will increase the provision of modern senior citizen services in the community, in accordance with local and state codes.

Policies It shall be the policy of the City of Redondo Beach to:

- 4.2.1 Continue to develop, manage, and expand the City's senior services and programs as an important social service within the community, as funding and operational conditions permit.
- 4.2.2 Continually monitor and analyze the overall needs of the City's senior citizen (55 years of age and older) population, in order to investigate and implement new and additional programs and activities and meet the needs of this segment of the community in an aggressive and effective manner.
- 4.2.3 Attempt to coordinate senior citizen services with other South Bay providers to the extent feasible, while minimizing the duplication of effort and expenditure of unnecessary resources, both at the local and regional level.
- 4.2.4 Implement (where appropriate) through the Recreation and Community Services Department or other appropriate local government agency or department, the recommendations within the City-sponsored Child Care and Elder Care Needs Assessment and Service Strategies study.
- 4.2.5 Specifically investigate and pursue, principally through the City Recreation and Community Services Department, the provision of programs and services for the "frail" elderly.
- 4.2.6 Consider hiring additional staff, within the City Recreation and Community Services Department, to manage and implement existing and future local senior citizen programs.
- 4.2.7 Pursue additional funding sources, through the City Recreation and Community Services Department, to expand services provided through the Senior In-Home Aide Program.
- 4.2.8 Continue to pursue, and assist in the assemblage of land, planning, funding, and construction of affordable senior citizen housing.

- 4.2.9 Continue, through the City Recreation and Community Services Department, to monitor and analyze the needs of the senior citizen population relative to transportation, in order to increase the availability, accessibility, and use of such services to the population.
- 4.2.10 Continue, through the City Recreation and Community Services Department, to monitor the most efficient and effective means of providing senior day care services to Redondo Beach residents.
- 4.2.11 Consider providing assistance to regional adult day care facilities and other organizations that are able to demonstrate a need for reduced fees or enhanced services for Redondo Beach resident senior citizens, as funding allows.

2.3.4 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Child Care Services and Senior Citizen Services Section. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

Child Care Services

- The City of Redondo Beach, through the Recreation and Community Services Department, shall monitor the provision of local child care services (*Policy 4.1.2*).
- Representatives of the City's Recreation and Community Services Department shall communicate and work on an ongoing basis with the local child care resource and referral agency (Connections for Children), in an effort to help monitor and analyze the specific needs of this segment of the community (*Policy 4.1.1*).
- The City Recreation and Community Services Department shall review the recommendations and policies contained within the Child Care and Elder Care Needs Assessment and Services Strategies study completed by Castañeda & Associates, and shall propose the implementation of those policies which are deemed to be appropriate and feasible (*Policy 4.1.3, 4.1.4*).
- The City of Redondo Beach, through the Recreation and Community Services Department, shall develop and publish an informational brochure and/or newsletter (on at least a biannual basis), distributed to known local child care providers and patrons, and the community as a whole (if feasible), to provide

and seek additional information relative to child care services and the child care issue, to better inform the community regarding these matters. The first issue of these brochures and/or newsletters shall be published within eighteen (18) months of the adoption of the General Plan, and shall be published at a frequency of no less than twice per year (*Policy 4.1.5*).

- The City Child Care Services staff (and/or their designee or designees) shall establish an ongoing dialogue and relationship with local public and private sector firms and businesses to encourage and assist these entities in establishing employer-sponsored or work-place located child care services and other programs designed to ease family versus work demands (*Policy 4.1.6*).
- The City Recreation and Community Services Department shall review all relevant portions of the existing City of Redondo Beach Zoning Code and shall recommend to the Planning Commission and City Council appropriate modifications to the code, in order to allow large family child day care homes as a specifically permitted use, consistent with state requirements and regulations (*Policy 4.1.7*).
- The City Recreation and Community Services Department shall formally participate in reviewing and providing input into the planning and design process for the future reuse or improvement of the City's recreational facilities and surplus government facilities, for the expressed purpose of proposing and ensuring the incorporation of child care facilities or open space facilities used by child care patrons in these facilities (*Policy 4.1.8*).
- The City Recreation and Community Services Department shall work with the appropriate local departments (Parks and Recreation, Public Works, Redondo Unified School District, etc.) responsible for the purchase and maintenance of capital equipment placed within local public open space, to encourage the purchase and installation of additional pre-school-aged play equipment in these facilities (*Policy 4.1.9*).
- The City Recreation and Community Services Department shall prioritize (in cooperation with the local school district) the creation and implementation of additional after school services and activities for children as a supplement to more traditional means of child care services (*Policy 4.1.10*).

Senior Citizen Services

- The City of Redondo Beach, through the Recreation and Community Services Department, shall monitor the provision of local senior citizen services (*Policy 4.2.1, 4.2.2*).
- The City of Redondo Beach, through the Recreation and Community Services Department, shall (if additional funding becomes available) contact

representatives of other South Bay region communities to propose the conduct of ongoing region-wide meetings of the appropriate members of local governments responsible for the provision of senior care services to promote the coordination of such services to more effectively address and serve this segment of the population, while also minimizing the duplication of effort and the expenditure of unnecessary resources in this area (*Policy 4.2.3*).

- The City Recreation and Community Services Department shall review the recommendations and policies contained within the Child Care and Elder Care Needs Assessment and Services Strategies study completed by Castañeda & Associates, and shall recommend the implementation of those policies which are deemed to be appropriate and feasible (*Policy 4.2.1, 4.2.4, 4.2.6*).
- The City Recreation and Community Services Department shall specifically address the provision of additional programs and services for the “frail elderly” in the proposal and implementation of local senior care services (*Policy 4.2.5*).
- The City Recreation and Community Services Department shall investigate the full range of potential funding sources (federal grants, state public funding, local public funding, local corporate funding, etc.), and proactively pursue and dedicate such funding to allow for the expansion of those services provided through the Senior In-Home Aide Program (*Policy 4.2.7*).
- The City of Redondo Beach, through the Community Development Department and Recreation and Community Services Department, shall continue their ongoing and previously successful efforts to aggressively pursue and assist in the assemblage of land, planning, funding, and construction of affordable senior citizen housing (*Policy 4.2.8*).
- Representatives of the City Recreation and Community Services Department shall communicate, on an ongoing basis, with local senior citizen services providers and patrons in an effort to help monitor and analyze the specialized transportation needs of this segment of the community; these representatives shall also establish a means of communication with regional and local transit providers to encourage dialogue with these entities and propose/negotiate improvements and modifications to the transit equipment and services to better serve the senior population (*Policy 4.2.9*).
- Representatives of the City Recreation and Community Services Department shall, on an ongoing basis, poll and interview local adult day care providers and patrons in an effort to monitor the use of local senior day care facilities and forecast/respond to potential increases in demand for such services (*Policy 4.2.10*).

- The City Recreation and Community Services Department shall monitor, review, and analyze the characteristics of the populations of senior care facilities and the practices of senior care providers, and (if deemed to be appropriate and feasible) shall propose that human or financial resources be provided to such facilities, in order to enhance or expand the services that they are able to provide to City residents (*Policy 4.2.11*).

SECTION 3.0

Infrastructure Systems and Community Services

SECTION 3.1

Transportation and Circulation

3.0 INFRASTRUCTURE SYSTEMS AND COMMUNITY SERVICES

3.1 TRANSPORTATION AND CIRCULATION

Section 65302(b) of the State of California Government Code mandates that a circulation element be included in all general plans, as follows:

"A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan."

This portion of the plan documents and analyzes existing circulation conditions within the City of Redondo Beach and the South Bay/Los Angeles Basin region, as well as projected conditions that can be expected as a result of the full buildout of the land use element contained within the proposed General Plan (year 2010). This portion of the plan also describes and analyzes a range of capital and operational improvements that should be implemented to reduce the transportation and circulation related impacts of the full buildout of the General Plan. The scope and focus for this portion of the plan was developed in conjunction with the City of Redondo Beach Public Works and Community Development Departments.

The analysis focuses the majority of its attention on travel conditions within the actual city limits. However, the nature of traffic and circulation in the Los Angeles metropolitan region, as well as within the South Bay area, requires that traffic analyses consider the impact of external influences (regional development, regional arterial and freeway improvements, etc.) on traffic and circulation conditions within the City of Redondo Beach. The travel demand forecasting model that has been developed as part of the General Plan Update will permit an ongoing systematic assessment of the effect which these external forces are likely to have on future local traffic and circulation conditions.

3.1.1 Existing Transportation and Circulation Conditions

Street System Classifications

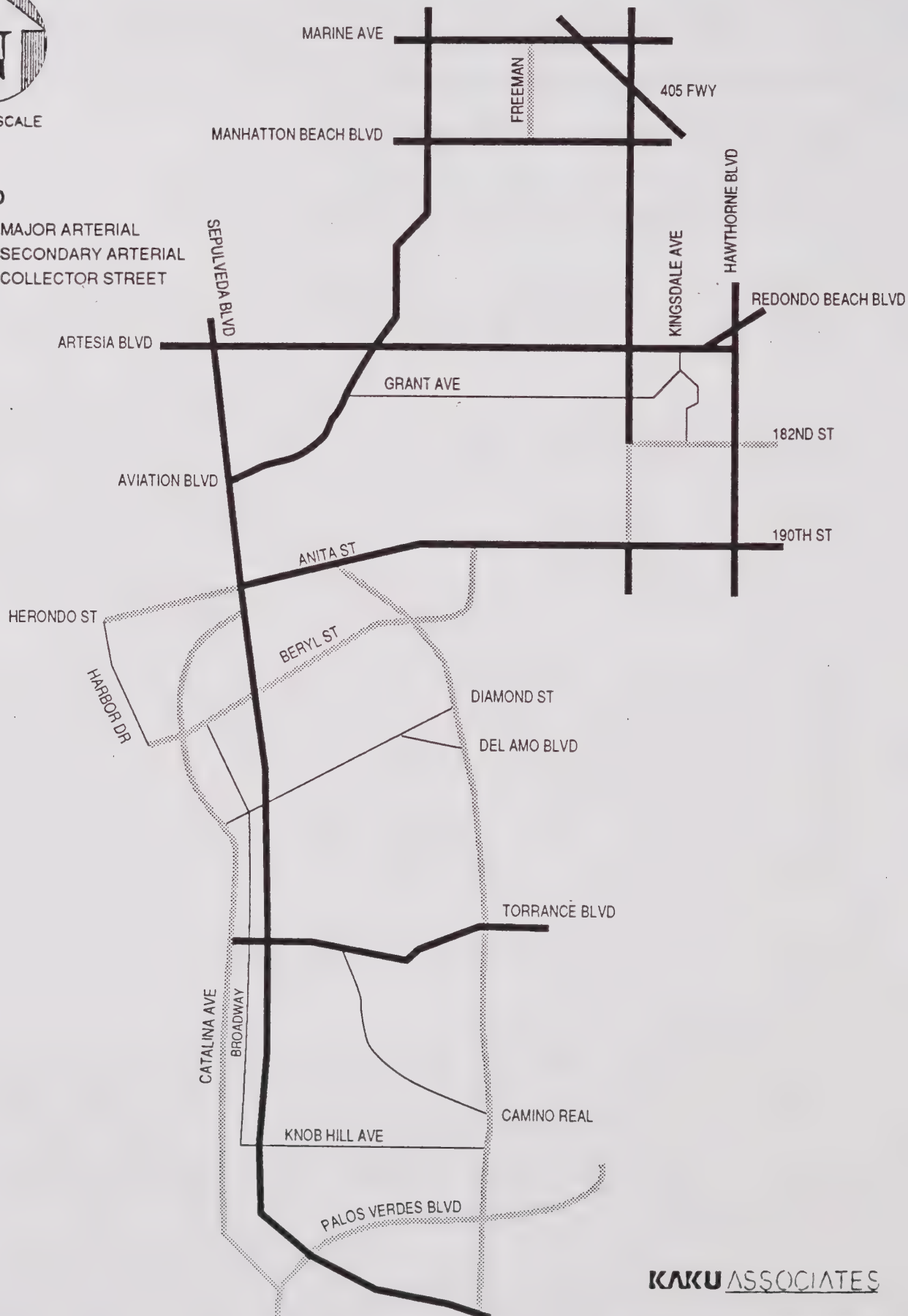
The municipal boundaries and primary existing streets within the City of Redondo Beach are depicted on the Master Plan of Streets **Figure 5**. While the Plan is divided into only three street types (primary arterials, secondary arterials, and collector streets), urban streets are typically divided into four or more functional classifications. The following discussion provides some background on these classifications.



NOT TO SCALE

LEGEND

-  MAJOR ARTERIAL
-  SECONDARY ARTERIAL
-  COLLECTOR STREET



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From a transportation perspective, urban street systems are intended to provide two competing functions: 1) movement - the transport (in a minimum amount of time) of people and goods between points, and 2) access - the ability to move easily to and from properties adjacent to streets. In order to achieve a balance between these competing needs, streets are usually arranged into the following hierarchy:

- Freeways - With a controlled number of entry points and grade-separated from city streets, freeways are intended to provide high speed regional movement. No access is provided to abutting properties.
- Arterial Streets - Designed to carry up to 50,000 vehicles per day, arterial streets are primarily intended to provide movement. Access to abutting properties can be provided, but is minimized. Arterials are frequently further divided into major and secondary arterials.
- Collector Streets - Typically carrying up to 15,000 vehicles per day, collector streets allow moderate volumes of through traffic to move between local streets and arterials while also providing access to abutting properties.
- Local Streets - Local streets are generally intended to carry less than 2,000 vehicles per day with highest priority to the function of providing access to abutting properties. Given this intended primary function, through traffic is discouraged.

The hierarchical relationship is maintained by the geographic layout of streets with freeways distributing traffic onto arterials, which in turn distribute traffic onto collectors, which then distribute traffic onto local streets. Efficiently designed urban transportation systems provide each of the street types listed above, in proportions and locations appropriate to maintain their functionality and compatibility with adjacent land uses.

The following portions of this section focus on existing traffic conditions found on arterial and collector streets across the community, since these street types are the primary traffic carriers within the City of Redondo Beach.

Local Circulation System Inventory

This section presents a description of the existing circulation system serving the City, including the number of travel lanes, channelization, traffic control devices, and on-street parking capacity. Existing public transit services and facilities for related non-automobile use are also summarized.

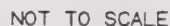
Individual Street Descriptions

North Redondo Beach, situated north of 190th Street, is basically served by a north-south/east-west grid system of streets. The southern portion of the city, south of Herondo/Anita Street, is primarily served by a linear/grid street system with a small number of the streets traveling diagonally.

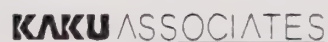
Pacific Coast Highway (SR 1), Aviation Boulevard, Inglewood Avenue and Hawthorne Boulevard (SR 107) are the major north-south arterials serving the City. Major east-west arterials include Marine Avenue (formerly Compton Boulevard), Manhattan Beach Boulevard, Artesia Boulevard (SR 91), 190th Street and Torrance Boulevard. Primary regional access to the community is provided by the San Diego Freeway (Interstate 405), which runs from northwest to southeast through the northeastern portion of the city.

The number of existing travel lanes and median channelization on major streets in the study area are illustrated in Figure 6. Brief descriptions of the principal roadways serving the City are provided below. The classifications used to describe the streets (i.e., arterial, collector, etc.) are based on their observed functions, irrespective of their intended or officially designated classifications.

- San Diego Freeway (Interstate 405) - The San Diego Freeway is a major regional freeway which runs in a northwest-southeast orientation through the northeast corner of the city. The freeway connects with other freeways to provide access to the entire Los Angeles basin. It is an eight-lane facility with grade-separated interchanges at major arterials. Key interchanges serving the study area are located at Rosecrans Avenue, Inglewood Avenue, Hawthorne Boulevard, Redondo Beach Boulevard, Artesia Boulevard and Crenshaw Boulevard.
- Harbor Freeway (Interstate 110) - The Harbor Freeway is a major regional freeway which runs in a north-south orientation approximately four miles east of the city limits. The freeway provides access from the study area to Downtown Los Angeles to the north. It is an eight-lane facility with grade-separated interchanges at major arterials. Key interchanges serving the study area are located at Redondo Beach Boulevard, Artesia Boulevard, Torrance Boulevard, Carson Street and Sepulveda Boulevard.
- Anita Street/Herondo Street/190th Street - The combination of these three streets form an east-west arterial which runs through the center of the city. Herondo Street, a secondary arterial, runs between Harbor Drive and Pacific Coast Highway; Anita Street, a major arterial, runs between Pacific Coast Highway and Flagler Lane; and 190th Street, a major arterial, continues easterly from Flagler Lane. A raised median exists on Herondo Street and a



SY - SINGLE STRIPE
DY - SOLID DOUBLE LINE
QY - PAINTED MEDIAN
RM - RAISED MEDIAN
CL - CONTINUOUS LEFT TURN LANE
— CITY LIMITS



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EXISTING LOCAL STREET SYSTEM TRAVEL LANE CHARACTERISTICS

FIGURE
6

continuous left-turn lane is present on Anita Street. West of Hawthorne Boulevard, on-street parking is generally permitted along the north curb.

On the south curb, parking is prohibited east of Meyer Lane and between Flagler Lane and Prospect Avenue. Metered parking is provided west of Francisca Avenue.

- Artesia Boulevard (State Route 91) - Artesia Boulevard is a four-lane east-west major arterial with a raised median present throughout the study area, and becomes Gould Avenue west of Pacific Coast Highway. On-street parking is permitted west of Kingsdale Avenue within the City limits.
- Aviation Boulevard - Aviation Boulevard is a four-lane north-south major arterial which curves in a southwest direction south of Artesia Boulevard ending at Pacific Coast Highway. Parking is prohibited on both sides of the street between Marine Avenue and Manhattan Beach Boulevard. On the east side no parking is allowed from Manhattan Beach Boulevard to Ernest Avenue.
- Beryl Street - Beryl Street is a southeast-northwest secondary arterial which runs from Harbor Drive to 190th Street. Between Prospect Street and Catalina Avenue, Beryl Street has recently been modified to run one lane in each direction with a center turning lane. Beryl Street narrows to two lanes east of Flagler Lane. On-street parking is permitted on the street between Catalina Avenue and Flagler Lane.
- Broadway - Broadway is a two-lane north-south collector which runs from Catalina Avenue to Knob Hill Avenue with on-street parking permitted.
- Camino Real - Camino Real is a four-lane northwest-southeast collector which runs from Torrance Boulevard past Prospect Avenue. East of the city limits, this facility continues east as Sepulveda Boulevard. On-street parking is provided along this facility.
- Catalina Avenue - Catalina Avenue is a four-lane north-south secondary arterial which runs from Pacific Coast Highway near the northern city boundary to Palos Verdes Boulevard at the southern city boundary. On-street parking is metered on the west side from Carnelian Street to Torrance Boulevard and on the east side from Emerald Street to Pearl Street. A raised median exists between Beryl Street and Torrance Boulevard.

- Del Amo Boulevard - Del Amo Boulevard is a two-lane east-west collector which runs from Diamond Street to Prospect Avenue. On-street parking is permitted on the north side.
- Diamond Street - Diamond Street is a two-lane collector traveling in a northeast-southwest direction. Diamond Street runs from Catalina Avenue to Prospect Avenue. This street was recently restriped from a four-lane facility, now providing a continuous left-turn lane, bicycle lanes, and parking on both sides of the street
- Esplanade - Esplanade is a two-lane north-south collector which runs from Catalina Avenue to Vista Del Mar. On-street parking is permitted, with meter control on the west side between Avenue A and Avenue I as well as the entire east side of Esplanade. From Knob Hill Avenue south, Esplanade runs two lanes with a center turn lane and bike lanes on both sides of the street.
- Flagler Lane - Flagler Lane currently functions as a north-south collector street, providing two travel lanes and no parking between Artesia Boulevard and Anita Street. Between Anita Street and Beryl Street, Flagler Lane provides two lanes with a center turn lane and on-street parking (angled on the east side and parallel on the west side).
- Grant Avenue - Grant Avenue is a two-lane collector. Grant Avenue travels in an east-west direction and runs from Aviation Boulevard to Kingsdale Avenue. This street was recently restriped from a four-lane facility to a two lane facility, plus a continuous left-turn lane, bicycle lanes, and parking on both sides of the street.
- Harbor Drive - Harbor Drive provides four lanes within the study area and functions as a collector between Herondo Street and Beryl Street. North of Herondo Street, this facility continues north as Hermosa Avenue. Metered on-street parking is provided.
- Hawthorne Boulevard (State Route 107) - Hawthorne Boulevard provides eight through lanes with a raised median in the vicinity of the city and is designated as a north-south major arterial. On-street parking is prohibited within the study area.
- Inglewood Avenue - Inglewood Avenue is a north-south major arterial providing four through lanes north of 190th Street. A raised median exists north of Grant Avenue. Parking is prohibited on the east side of the street between Marine Avenue and Manhattan Beach Boulevard, from Artesia Boulevard to Vanderbilt Lane, and from Rockefeller Lane to 190th Street. On

the west side, parking is prohibited between Marine Avenue and Faber Street and from Grant Avenue to 190th Street.

- Kingsdale Avenue - Kingsdale Avenue is a north-south collector providing two lanes between Artesia Boulevard and 182nd Street. On-street parking is permitted along the west side of Kingsdale Avenue between Artesia Boulevard and Grant Avenue.
- Knob Hill Avenue - Knob Hill Avenue is a two-lane east-west collector which runs from Esplanade to Camino Real. A continuous left-turn lane exists west of Pacific Coast Highway and on-street parking is permitted. Westbound access has recently been eliminated onto Knob Hill Avenue from Camino Real.
- Manhattan Beach Boulevard - Manhattan Beach Boulevard is an east-west major arterial providing four through lanes with a raised median east of Freeman Boulevard. On-street parking is permitted on the south side between Aviation Boulevard and Vail Avenue. Widening is planned between Aviation Boulevard and Doolittle Drive, to allow for six through lanes in the vicinity.
- Marine Avenue - Marine Avenue (formerly Compton Boulevard) is a four lane east-west major arterial, the southern half of which lies within the City of Redondo Beach between Aviation Boulevard and Inglewood Avenue. A painted median is provided and parking prohibited west of the I-405 underpass; east of the underpass, parking is permitted. West of Aviation Boulevard, Marine Avenue provides three westbound lanes with a large raised median.
- Pacific Coast Highway (State Route 1) - Pacific Coast Highway (PCH) is a four-lane north-south major arterial. Left turn lanes are provided at major intersections and travel speeds are relatively low, as characteristic of commercial corridors. A raised median is located south of Avenue H. On-street parking is prohibited along short sections of PCH at Aviation Boulevard, Catalina Avenue and Diamond Street, and generally permitted elsewhere.
- Palos Verdes Boulevard - Palos Verdes Boulevard is a four-lane northeast-southwest secondary arterial with a raised median present within the study area. On-street parking is prohibited on the east side between PCH and Avenue G.
- Prospect Avenue - Prospect Avenue is a four-lane north-south secondary arterial which runs from Anita Street to Pacific Coast Highway. On-street parking is prohibited on the east side between Anita Street and Del Amo Street, between Barbara Street and Camino Real, and between Irena Avenue and Avenue E. On the west side of Prospect Avenue, parking is mostly

prohibited between Anita Street and Diamond Street, as well as between Helberta Avenue and Avenue F.

- Redondo Beach Avenue - Redondo Beach Avenue (previously named Freeman Boulevard) is a four-lane north-south secondary arterial which runs from Marine Avenue to Manhattan Beach Boulevard. On-street parking is prohibited on the west side between Santa Fe Avenue and Manhattan Beach Boulevard. A raised median is also provided.
- Redondo Beach Boulevard - Redondo Beach Boulevard is a four-lane northeast-southwest major arterial which ends at Artesia Boulevard. On-street parking is permitted within the study area.
- Rindge Lane - Existing traffic volumes indicate that Rindge Lane currently functions as a north-south collector street between Manhattan Beach Boulevard and 190th Street. Two lanes are provided along its length, with parking prohibited. A pavement (street) width of approximately 28 feet is provided on Rindge Lane.
- Robinson Street - Robinson Street is a residential street which currently functions as an east-west collector between Aviation Boulevard and Inglewood Avenue. Two lanes are provided with parking on the south curb west of Vail Avenue with a pavement width of 28 feet. East of Vail, parking is permitted on both sides of the street, on a width of approximately 40 feet. Between Green and Aviation Place, Robinson Street has been recently modified to a one-way street in the westbound direction.
- Torrance Boulevard - Torrance Boulevard is a four-lane east-west major arterial which cul-de-sacs west of Catalina Avenue. On-street parking is permitted along most of its length in the area.
- Vail Avenue - Traffic volumes indicate that Vail Avenue currently functions as a north-south collector north of Artesia Boulevard, similar to Rindge Lane. Vail Avenue provides two travel lanes, with parking prohibited on the west curb.
- 182nd Street - 182nd Street is a two-lane east-west secondary arterial running eastward from Inglewood Avenue. On-street parking is generally prohibited within the study area.

Local Traffic Control Devices

The locations of existing traffic control devices on principal streets in the study area are shown in Figure 7. The presence of traffic signals on secondary streets greatly determine their vehicular carrying capacities, since signals should be considered qualitatively with respect to the number of traffic signals on major arterials. While easing access onto arterials, large numbers of closely spaced traffic signals decrease the carrying capacity of the major street by increasing the potential for delay. Closely spaced traffic signals also have the effect of dispersing traffic on the minor streets, rather than funneling vehicles onto collectors.

Where traffic volumes are appropriate, all-way stop control provides the most orderly and cost-effective assignment of rights-of-way to conflicting traffic controls.

Local On-Street Parking

Existing on-street parking locations on the major streets within the City of Redondo Beach were described in the street descriptions above, and are shown schematically in Figure 8. As indicated in the figure, on-street parking is permitted along most arterials throughout the City.

The presence of on-street parking plays two conflicting roles. First, on-street parking serves as an overflow for shortfalls in off-street parking supply. This availability is particularly important for the older commercial developments where off-street patron parking may be very limited or may not exist at all. Provision of on-street parking, however, limits traffic carrying capacity by using pavement area which could be used for travel lanes. Parking and pulling-out maneuvers also reduce speeds on the street, thereby also reducing carrying capacity.

Complicating the issue of parking versus street capacity is the fact that a number of the major streets in the area fall under two or more jurisdictions. Such streets, and the community sharing jurisdiction, include: Aviation Boulevard (Manhattan Beach and Hermosa Beach), Inglewood Avenue (Lawndale), Marine Avenue (Hawthorne and Lawndale), and 190th Street (Torrance). Shared jurisdiction is often accompanied by inconsistent or conflicting priorities, which can impede agreements on street and traffic signal improvements, as well as on parking policies.

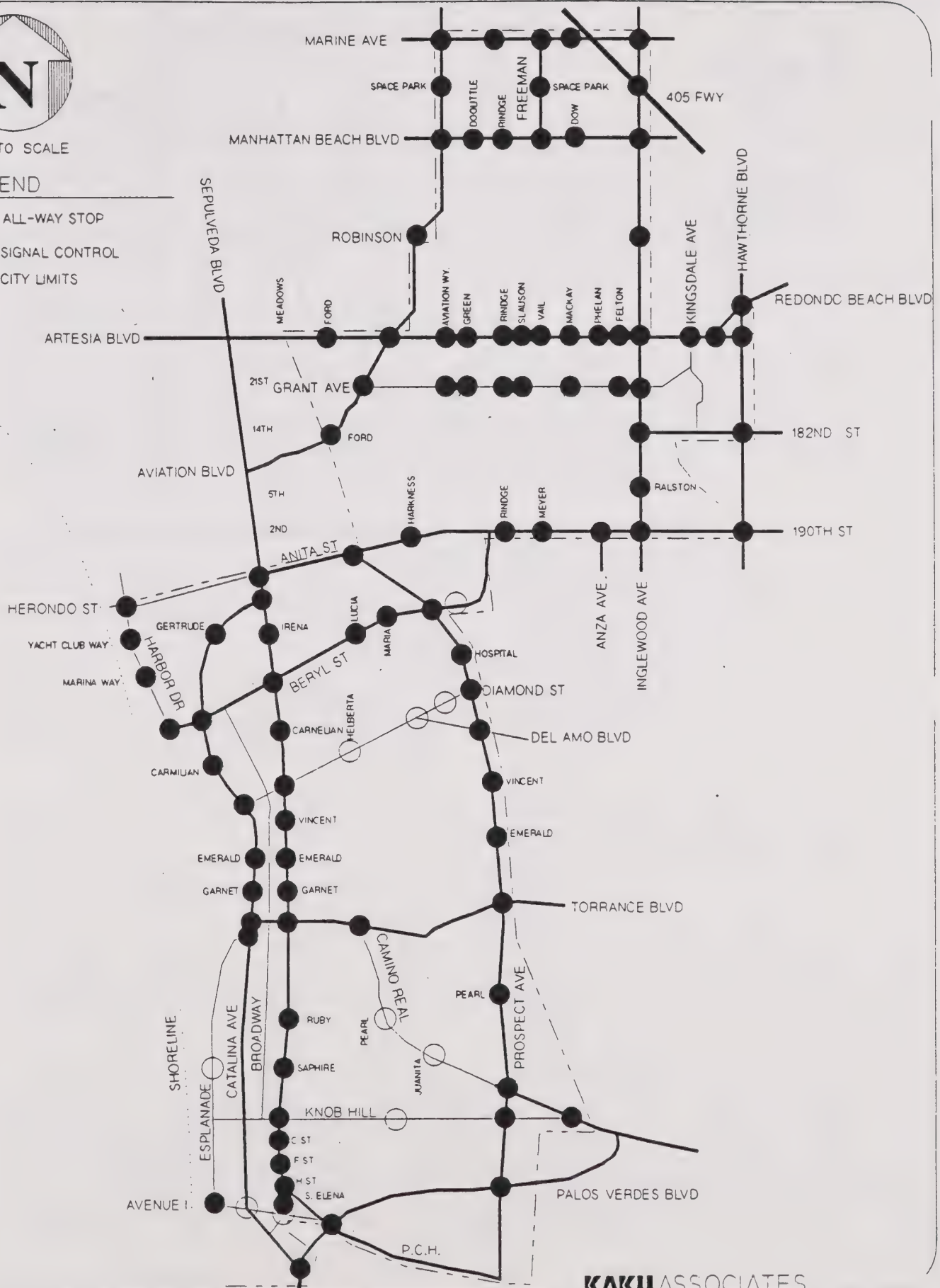
In residential areas, on-street parking also plays conflicting roles involving the overflow parking supply function. Rather than conflicting with capacity, however, the issue in residential areas is primarily directed at the impact which on-street parking has on access to driveways, either through inhibiting movement or limiting visibility; these conflicts also occur at intersections.



NOT TO SCALE

LEGEND

- ALL-WAY STOP
- SIGNAL CONTROL
- - - CITY LIMITS



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EXISTING LOCAL TRAFFIC CONTROL DEVICE
LOCATIONS AND CHARACTERISTICS

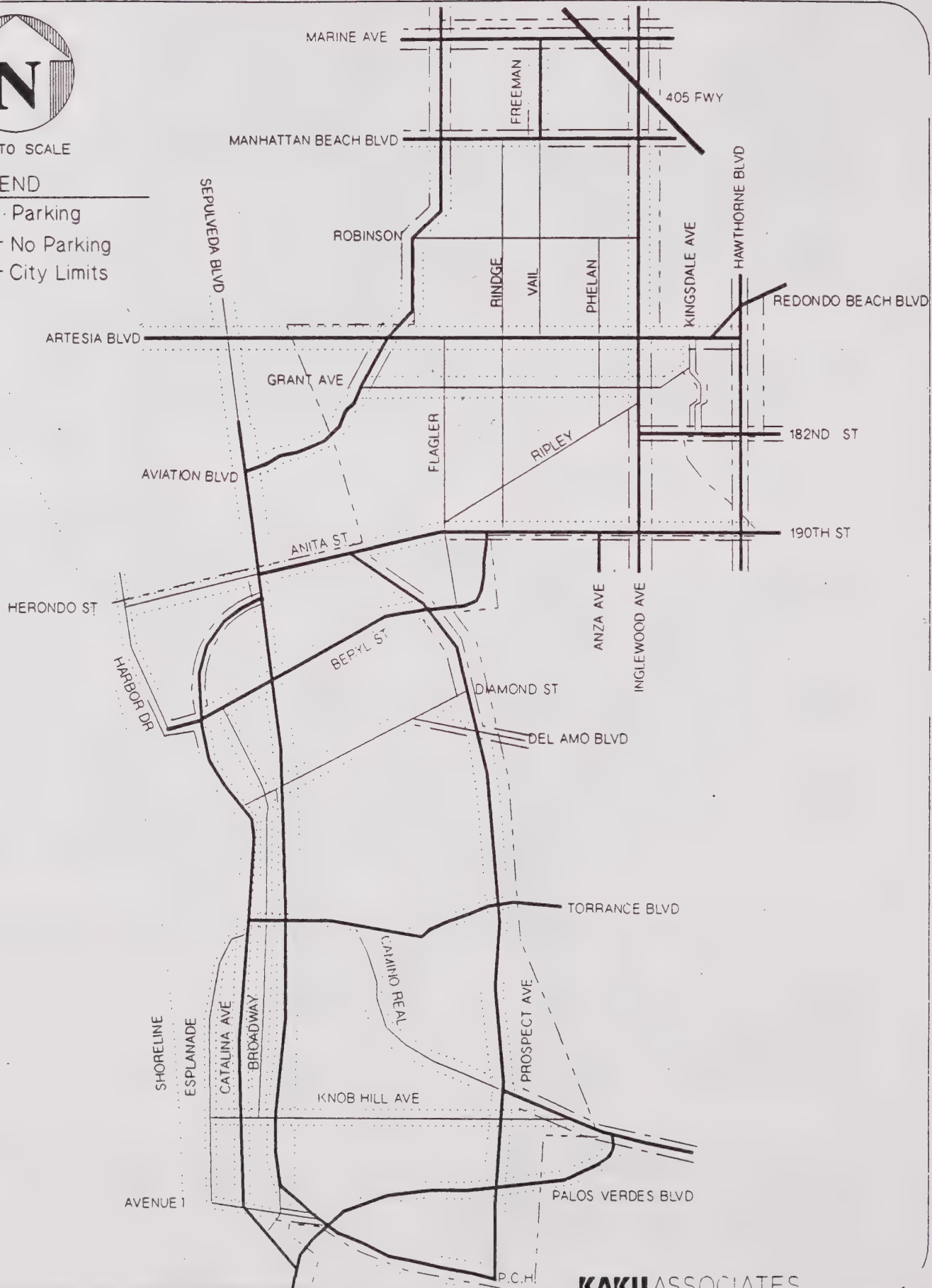
FIGURE
7



NOT TO SCALE

LEGEND

- Parking
- No Parking
- - - City Limits



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**EXISTING LOCAL ON-STREET
PARKING LOCATIONS**

**FIGURE
8**

Local Public Transit Service

The City of Redondo Beach is directly served by several bus lines. The Southern California Rapid Transit District (SCRTD) operates 13 routes; Torrance Transit operates 5 routes; and the Gardena Municipal Bus service operates one route serving and traveling through the City. These routes are illustrated in **Figure 9** and are described below:

Southern California Rapid Transit District

- Line 40 - Line 40 provides service between the Galleria at South Bay and Downtown Los Angeles. Local service is provided from the Galleria at South Bay to the City of Inglewood along Hawthorne Boulevard. Line 40 provides approximately 5 to 20 minute headways during weekdays and about 5 to 30 minute headways on weekends and holidays.
- Line 126 - Line 126 provides local service between Manhattan Beach and Hawthorne. Line 126 travels along Manhattan Beach Boulevard and provides approximately 50 minute headways during weekdays. No service is provided on weekends or holidays.
- Line 130 - Line 130 provides service between the Harbor/Pier area in Redondo Beach and communities to the east. The line travels along Catalina Avenue north of Pearl Street, Harbor Drive, and Artesia Boulevard. Weekday headways are approximately 60 minutes.
- Line 210 - Line 210 provides service between the Galleria at South Bay and Hollywood. Line 210 travels mainly along Crenshaw Boulevard and provides approximately 10 to 20 minute headways during weekdays and roughly 15 to 20 minute headways during weekends and holidays.
- Line 211 - Line 211 provides service between the Galleria at South Bay and Inglewood. Line 211 travels mainly along Prairie Avenue and provides approximately 60 minute headways during weekdays. No service is provided on weekends or holidays.
- Line 215 - Line 215 provides service between the Del Amo Fashion Center and Inglewood. Line 215 travels along Torrance Boulevard, Catalina Avenue, Diamond Street, Prospect Avenue, Beryl Street, 190th Street, Rindge Lane, Artesia Boulevard, Vail Avenue, and Manhattan Beach Boulevard within the City. Line 215 provides about a 30 to 60 minute headways during weekdays; no service is provided on weekends or holidays.



NOT TO SCALE

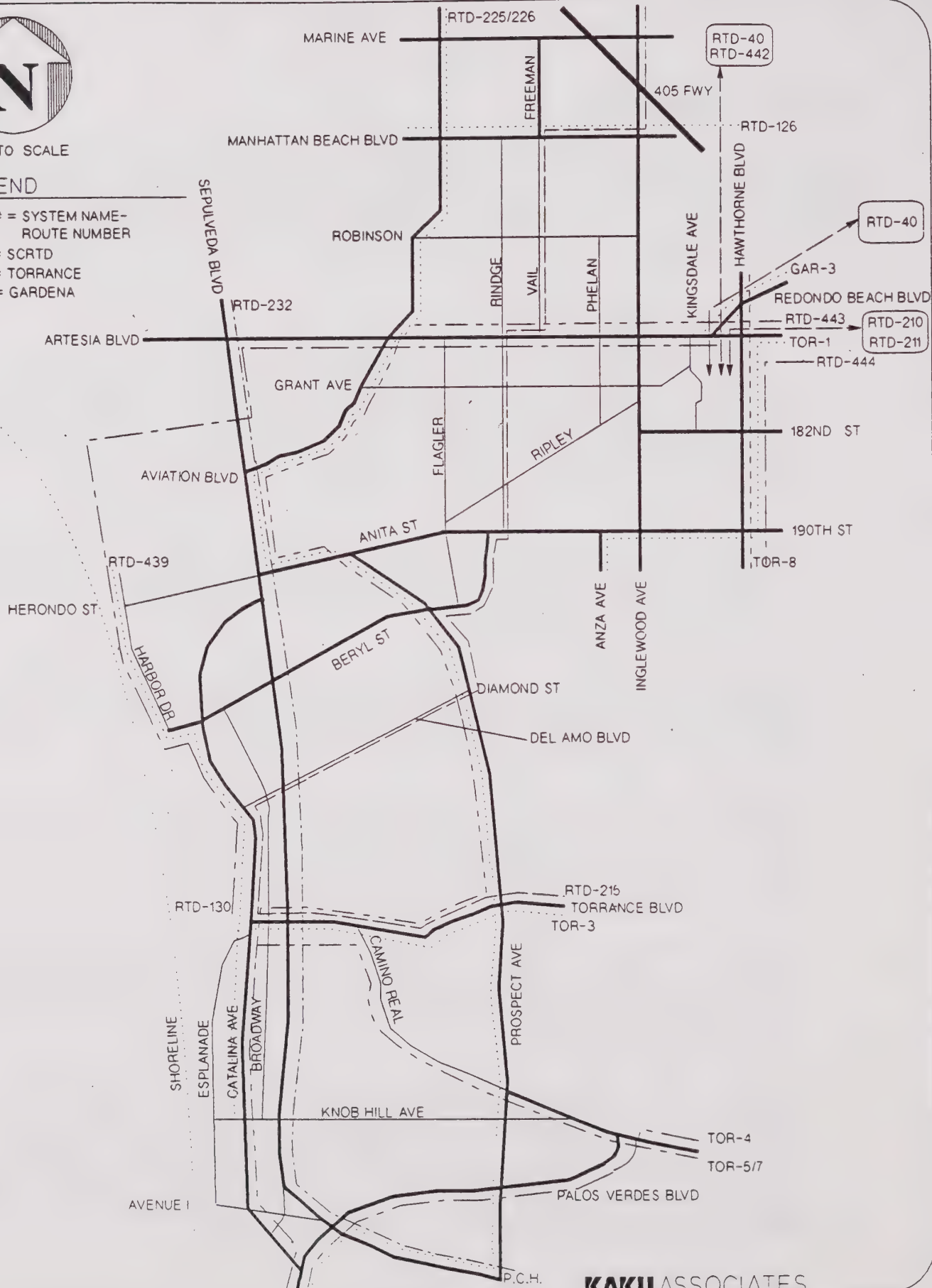
LEGEND

XXX-# = SYSTEM NAME-
ROUTE NUMBER

RTD = SCRTD

TOR = TORRANCE

GAR = GARDENA



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EXISTING LOCAL PUBLIC TRANSIT
SERVICE ROUTES

FIGURE
9

- Line 225 - Line 225 provides service between Palos Verdes Estates and El Segundo. Within the city, Line 225 travels along Prospect Avenue, Anita Street, Pacific Coast Highway, and Aviation Boulevard. Line 225 provides approximately 30 minute headways, Monday through Saturday.
- Line 226 - Line 226 provides service between San Pedro and El Segundo. Within the city, Line 226 travels along Prospect Avenue, Anita Street, Pacific Coast Highway and Aviation Boulevard. Line 226 provides approximately 30 minute headways Monday through Saturday.
- Line 232 - Line 232 provides service between the LAX Transit Center and the Long Beach Transit Mall. Line 232 travels along Pacific Coast Highway within the city and provides service about every 30 minutes on a daily basis.
- Line 439 - Line 439 provides express service between Redondo Beach and Downtown Los Angeles. Within the city, Line 439 travels along Catalina Avenue, Beryl Street and Harbor Drive. Service is provided approximately every 30 minutes daily.
- Line 442 - Line 442 provides express service between the Galleria at South Bay and Downtown Los Angeles. Within the city, Line 442 travels along Hawthorne Boulevard. Line 442 provides approximately 10 minute headways during the morning and evening peak periods on weekdays.
- Line 443 - Line 443 provides express service between Palos Verdes Estates and Downtown Los Angeles. Within the city, Line 443 travels along Catalina Avenue, Torrance Boulevard, Prospect Avenue and Anita Street. Line 443 provides 30 minute headways during the morning and evening peak periods on weekdays.
- Line 444 - Line 444 provides express service between Rancho Palos Verdes and Downtown Los Angeles. Within the city, Line 444 travels along Hawthorne Boulevard. Line 444 provides 20 to 60 minute headways on a daily basis.

Torrance Transit

- Line 2 - Line 2 provides service between the Del Amo Fashion Center and downtown Los Angeles. Within the city of Redondo Beach, Line 2 travels along Hawthorne Boulevard. Line 2 provides service once an hour on weekdays and Saturdays.
- Line 3 - Line 3 provides service between Redondo Beach and Long Beach. Within the city, Line 3 travels along Torrance Boulevard. Line 3 provides service approximately three times per hour on weekdays and Saturdays and once an hour on Sundays.

- Line 4 - Line 4 provides service between the area of the city south of Palos Verdes Boulevard and Del Amo Fashion Center. Line 4 provides one hour headway on weekdays and Saturdays.
- Line 7 - Line 7 provides service between Redondo Beach and Wilmington. Within the city, Line 7 travels along Torrance Boulevard onto Camino Real. Line 7 provides service approximately two times per hour on weekdays and Saturdays.
- Line 8 - Line 8 mainly provides service within Torrance and travels along Hawthorne Boulevard within the city of Redondo Beach. Line 8 provides service approximately two times per hour on a daily basis.

Gardena Municipal Bus Lines

- Line 3 - Line 3 provides service from the South Bay Transit Center (Galleria at South Bay) to the City of Compton. Within Redondo Beach, Line 3 runs along Redondo Beach Boulevard. Service is approximately every 30 minutes, seven days a week.

The City is also served by "The Wave", a demand-responsive service for use by residents of the cities of Redondo Beach and Hermosa Beach for travel within the two cities.

The combination of the various available services provide good local transit service in the area, with primary activity directed at the South Bay Transit Center (Galleria at South Bay) and the Harbor area.

While still under development, the area will also soon be served by the "Norwalk-El Segundo" Light Rail line. The route currently being designed would terminate north of the TRW complex at Redondo Beach Avenue/Marine Avenue, and provide service north into El Segundo, east to Norwalk. The system will connect with the Long Beach-Los Angeles Rail Line along this route.

Once completed, this system will likely affect some bus routes, directing service to the nearest rail station. Local light rail service is scheduled to begin some time in 1993.

Local Designated Truck Routes

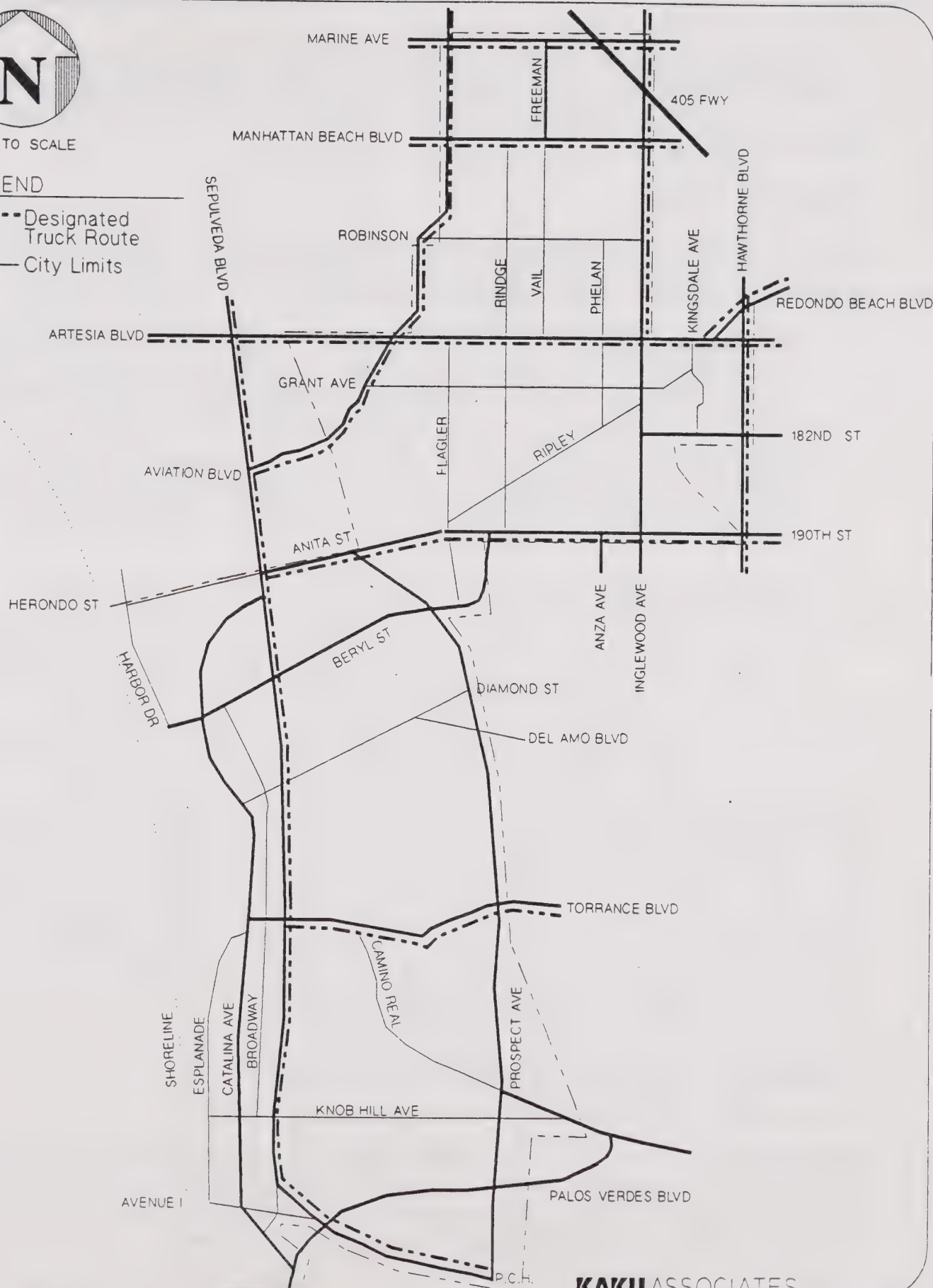
Streets which have been designated by the City of Redondo Beach to carry truck traffic within the city are shown in **Figure 10**. As indicated on the figure, designated routes are generally limited to major arterials, including the following. North-south: Sepulveda/PCH, Aviation, Inglewood (n/o Artesia), Hawthorne; east-west: Marine Avenue, Manhattan Beach, Artesia, Redondo Beach, Anita/190th, and Torrance.



NOT TO SCALE

LEGEND

- Designated Truck Route
- - - City Limits



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EXISTING LOCALLY-DESIGNATED
TRUCK ROUTES

FIGURE
10

Since commercial uses within the city are concentrated along these major arterial corridors, the truck route designations shown appear to meet current needs. These truck routes are also sufficiently separated from residential areas to prevent excessive conflicts.

Local Bicycle Facilities

Figure 11 shows the existing and proposed bicycle facilities within the city. The following are standard definitions of facility types, as set forth by the State of California Department of Transportation (Caltrans):

- Bike Paths (Class I) - are facilities with exclusive rights-of-way (separated from automobile traffic), with minimal points of conflict with motorists. Bike paths provide the highest level of safety for bicyclists, and may be used for either recreational purposes or as higher-speed commute routes.
- Bike Lanes (Class II) - provide painted striping within the paved area of highways. Bike lane stripes are intended to promote an orderly flow of traffic by establishing specific lines of demarcation between areas reserved for bicycles and lanes for motor vehicles.
- Bike Routes (Class III) - are shared facilities, either with motorists on the street or with pedestrians on the sidewalk; in either case bicycle use is secondary. To be of benefit to bicyclists, bike routes must offer a higher level of service than alternative streets. Favorable traffic controls, removed or restricted parking, and smooth riding surfaces are primary beneficial features.

There are few opportunities for expanding bike lanes because these would generally necessitate the removal of on-street parking, resulting in decreased vehicular circulation conditions. A Bikeway Plan developed in 1975 recommended a number of additional bike lanes, but due to the high demand for on-street parking, the plan was considered infeasible, and was never adopted by the City Council. Recently, bike lanes were added along Diamond Street and Grant Avenue; these were made possible by restriping the former four-lane facilities to two-lane facilities with a continuous center turn lane, with on-street parking still being provided on both sides of the right of way. Although there are limited opportunities for providing additional bike lanes, it may be possible to expand a number of bike routes in the City, without adversely impacting on-street parking.

Existing Traffic Volumes and Operating Conditions

Existing Traffic Volumes

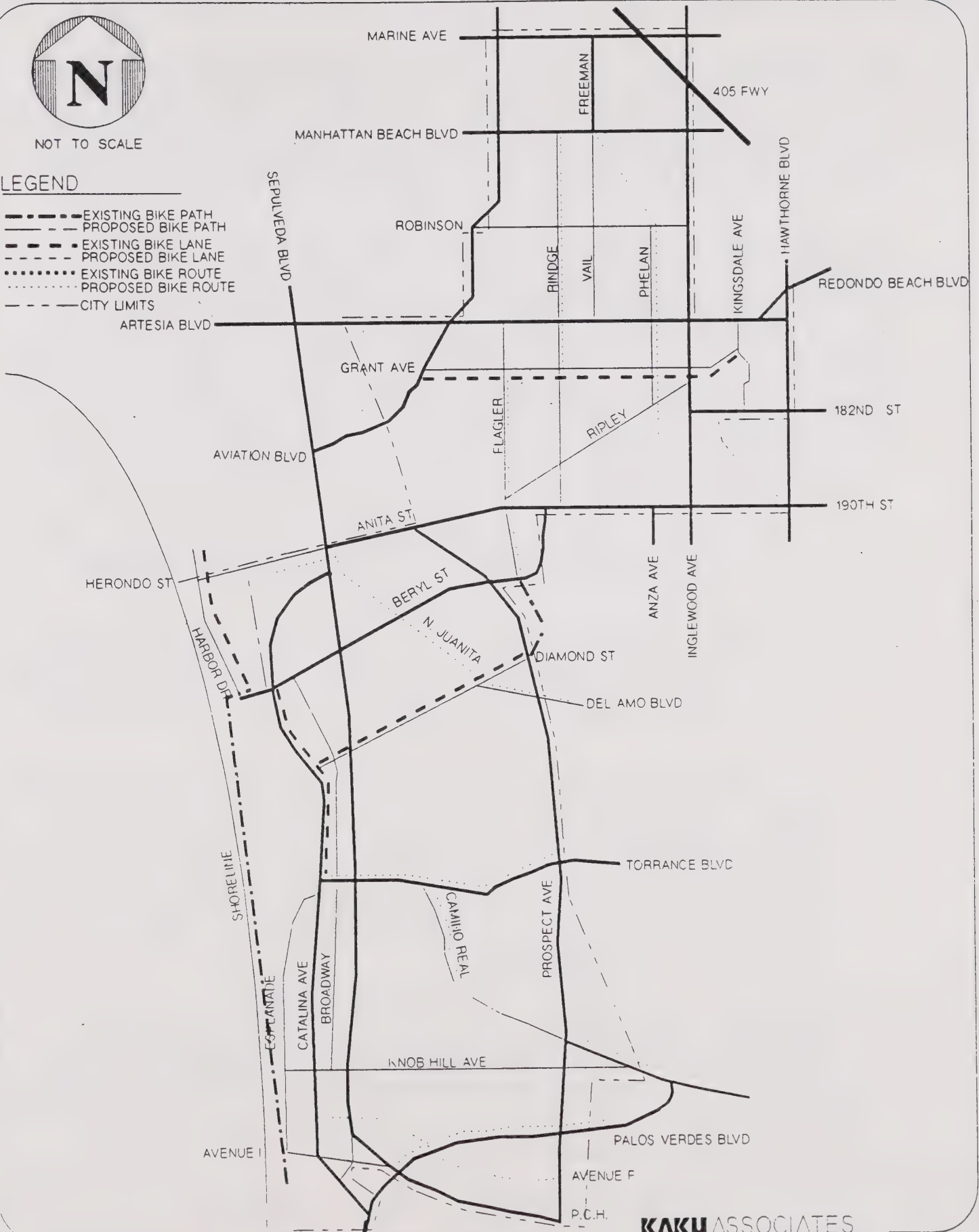
Existing daily traffic counts for key streets in the city were obtained from the City of Redondo Beach Department of Public Works Engineering Division. Daily traffic volumes along Pacific Coast Highway and Artesia Boulevard were obtained from the State of California Department of Transportation (Caltrans).



NOT TO SCALE

LEGEND

- EXISTING BIKE PATH
- PROPOSED BIKE PATH
- EXISTING BIKE LANE
- PROPOSED BIKE LANE
- EXISTING BIKE ROUTE
- PROPOSED BIKE ROUTE
- CITY LIMITS



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**EXISTING LOCAL BICYCLE FACILITIES
(PATHS, LANES, AND ROUTES)**

**FIGURE
11**

To the extent which recent data was available, the daily traffic volumes along these key streets have been summarized (Figure 12), (Figure 13). These figures indicate traffic volumes during the afternoon peak hour of the day, which generally occurs between 5:00 and 6:00 p.m. (generally observed and understood to be the "worst-case" time period for traffic conditions. These counts were taken primarily in 1987 and 1988, and were supplemented, where necessary, with counts taken in 1983-86.

The reader should be aware that the existing traffic counts and volumes utilized in the General Plan were originally collected and analyzed in 1988, at the time that the General Plan update process began. Since that time, local and regional economic and real estate development conditions have changed (i.e., the national and regional economies fell into a major recession in 1991), and additional operational and capital transportation and circulation improvements have been implemented (primarily operational improvements that have lessened the amount of commuter traffic encroachment into the residential areas of North Redondo Beach). These factors have resulted in slight changes and impacts on the "base" traffic volumes and traffic distribution patterns in the South Bay and in the City of Redondo Beach.

For a number of reasons, a specific adjustment to the original existing traffic conditions data base has been determined to be unnecessary and infeasible. The reasons include, but are not limited to the following:

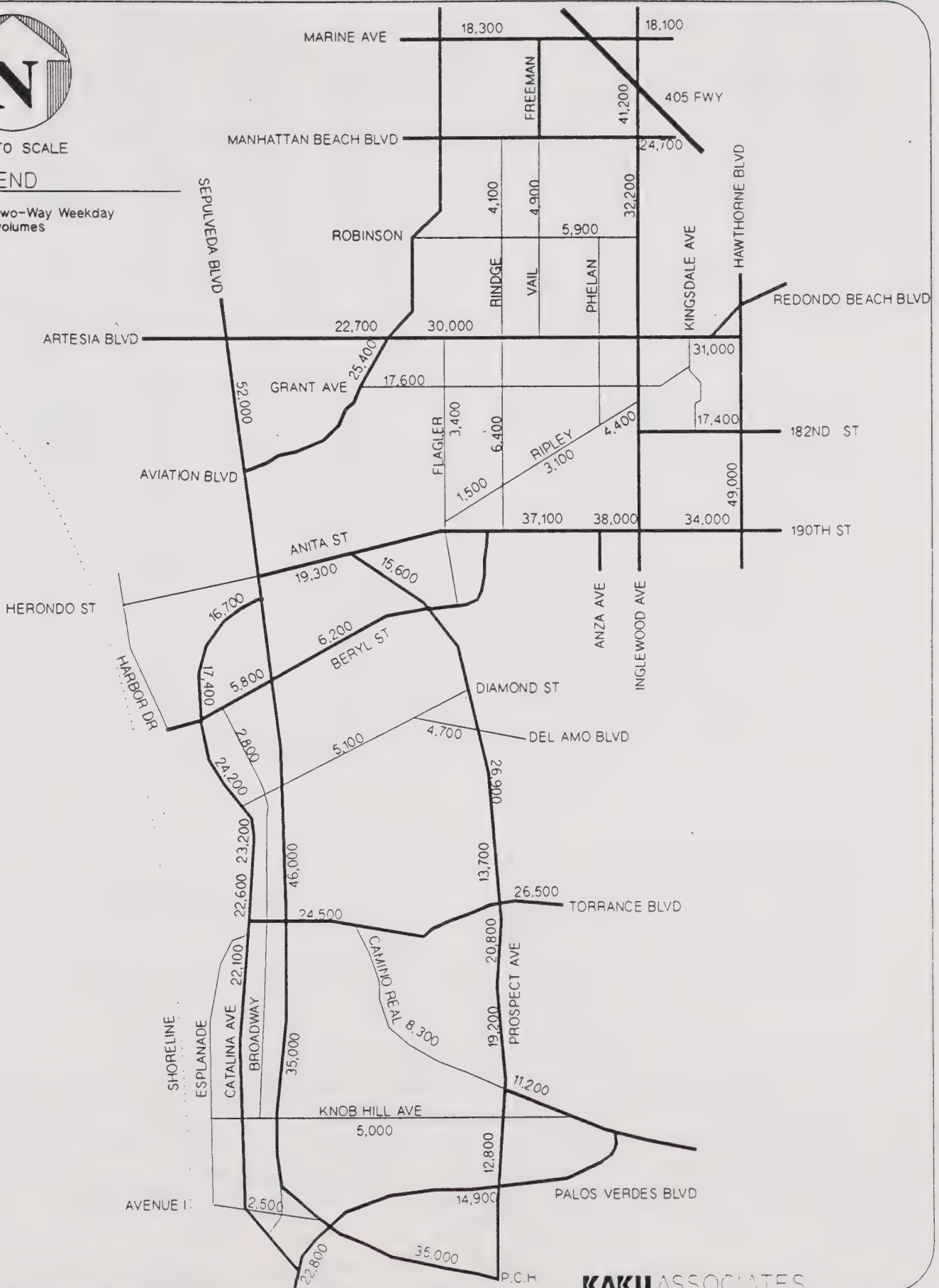
- The statistical changes and impacts, as an overall percentage across the City, and at major intersections or roadway segments, have not significantly changed functional levels of service (or LOS) or roadway status classifications (i.e., the impacts are relatively insignificant).
- As proven through historical experience and analysis, economic and real estate development conditions impacting traffic conditions constantly evolve and run in short cycles. No one condition or situation remains constant for any significant period of time, and any specific data will change to some degree and will become outdated within a short period of time. In essence, a single point in time must be chosen as the reference point to reflect existing traffic volumes, and any reasonable reference point will satisfy the requirement as well as any other.
- The updated General Plan has an intended "life span" of twenty years, and is expected to remain in force until the year 2010; the value of a slight (one or two year) difference in the "base" year of existing conditions data (in addition to being insignificant) will also be lost shortly after the original adoption of the Plan.



NOT TO SCALE

LEGEND

nn = Two-Way Weekday
volumes

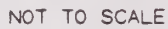


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EXISTING LOCAL AVERAGE DAILY
TRAFFIC VOLUMES

FIGURE
12



nn = One-Way, Peak Hour Volumes

FIGURE
13

- For analysis and environmental review purposes, the most important data and component of the circulation element is the projection of future traffic volumes, distribution patterns, and operational conditions that will be experienced at the maximum buildout of the land use plan permitted under the updated General Plan. Slight changes in existing traffic conditions do not impact the accuracy or relevance of this analysis.
- Collecting and analyzing new traffic data to reflect 1991 conditions would be extremely costly to the City and time consuming and, in practice, would be no more accurate after a short period of time than the data that is presently being used.

As the preceding figure indicates, traffic volumes in the City vary greatly among the major streets in the community. **Figure 12** shows that traffic volumes on major and secondary arterial streets generally range between 20,000 and 30,000 vehicles per day (vpd), though at some locations volumes reach as high as 52,000 vpd. Collector streets in the City of Redondo Beach generally carry on the order of 5,000 vpd.

The peak hour traffic volumes shown in **Figure 13** indicate the major travel patterns during peak periods. Examination of the traffic volumes on north-south streets shows the heavy southbound traffic flow in the evening. Travel patterns on east-west streets are much less distinct; in the southern part of the city westbound volumes are higher, in the northern section, traffic flows are mixed. This southbound travel pattern is generally mirrored, though not as greatly, during the morning peak period. These morning and evening peaks reflect travel demands during dominant commuter periods.

Existing Levels of Service

Level of service, or LOS, is a qualitative measure used across the traffic engineering and transportation industry to describe the condition of traffic flow within a specified segment of roadway or at an intersection, ranging from excellent conditions (LOS) A to overloaded conditions (LOS F). Level of Service definitions for urban street segments are provided in **Table 42**. Level of Service D is generally accepted as a realistic design objective in urban areas.

Street segment levels of service were projected by dividing the existing peak hour volumes by the estimated capacity of each street segment, by direction. Street segment capacities depend upon the number of traffic lanes in each direction and the average amount of green time allocated to the street at signalized intersections. A base capacity of 1,600 vehicles per hour per lane was assumed, with average green times dependent upon the functional classification of the street, resulting in the following per lane capacities:

TABLE 42

Level of Service Descriptions for Major Urban Streets

<u>Level of Service</u>	<u>Volume/Capacity Ratio</u>	<u>Description</u>
A	0.00-0.60	EXCELLENT. Primarily free flow-operations at average travel speeds usually about 90 percent of the free flow speed. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.61-0.70	VERY GOOD. Reasonably unimpeded operations at average travel speeds usually about 70 percent of the free flow speed. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.71-0.80	GOOD. Stable operations. However, ability to maneuver and change lanes in mid-block locations may be more restricted than in LOS B, and longer queues may contribute to lower average travel speeds of about 50 percent of the average free flow speed. Motorists will experience appreciable tension while driving.
D	0.81-0.90	FAIR. Borders on a range on which small increases in traffic volumes may cause substantial increase in approach delay and, hence, decreases in speed. Average travel speeds are about 40 percent of free flow speed.
E	0.91-1.00	POOR. Significant approach delays and average travel speeds of one-third the free flow speed or lower. Poor progression among signalized intersections and extensive queuing is likely.
F	> 1.0	FAILURE. Extremely low speeds below one-third to one-quarter of the free flow speed. Congestion is likely at critical signalized intersections, with high approach delays resulting. Adverse progression frequently contributes to this condition.

Source: Adapted from Transportation Research Board, Highway Capacity Manual, 1985.

Street Classification

Estimated Capacity

Major Arterials	900 vehicles per hour per lane
Secondary Arterials	700 vehicles per hour per lane
Collector Streets	650 vehicles per hour per lane

Use of these capacities is based on observations of prevailing traffic conditions in City of Redondo Beach and surrounding areas, as well as relevant research in the field.

Table 43 provides details on the volume-to-capacity analysis of major streets in the City. **Figure 14** indicates those locations which, based on the analysis, show peak hour traffic volumes at or near capacity. As shown, the primary problem locations are along north-south arterials in the northern section of the city. Specifically, Sepulveda Boulevard (Pacific Coast Highway), Aviation Boulevard and Inglewood Avenue experience severe congestion during peak periods.

The high level of traffic congestion experienced in the northern area of the City has impacted conditions on adjacent residential streets. In order to avoid the congestion of major streets, some commuters now use north-south residential streets (in particular Rindge Lane, Vail Avenue & Slauson Lane) as through routes.

As shown in the volume-to-capacity calculations for these streets (**Table 43**), the issue raised by this commuter use is not the limited capacity of the streets. Rather, commuter travel is seen as an inconsistent and unsafe use of these streets relative to their intended purpose of residential access. As a response, the City is investigating means by which to eliminate or limit the use of these streets for commuter use. If successful at reducing traffic volumes on minor streets, this plan will further increase travel demand on major arterials, primarily Inglewood Avenue and Artesia Boulevard.

East-west streets in the northern area and streets in the southern section of the city also experience significant traffic delays, though generally not as great as occurs on the northern north-south arterials.

Local Pedestrian Circulation

Crosswalks and pedestrian push-button controls are provided at the majority of the intersections controlled by traffic signals in the City of Redondo Beach. These generally allow pedestrians to cross the intersections with a "walk" signal.

Pedestrian activity in the city is generally concentrated to the west of Pacific Coast Highway, primarily along the Harbor area and within Riviera Village. Observations indicate that, in general, there is a relatively low level of pedestrian activity in other areas of the City.

TABLE 43**Existing Street Segment Levels of Service - Evening Peak Hours**

NORTH-SOUTH STREETS		Northbound				Southbound			
Screenline: Street	Function	Volume	No. of Lanes	V/C	LOS	Volume	No. of Lanes	V/C	LOS
South of Marine:									
Aviation (@ Space Park)	M	690	2	0.38	A	2,075	2	1.15	F
Freeman	M	575	2	0.32	A	n/a	2	-	-
Inglewood (@ I-405)	M	1,215	2	0.68	B	2,395	2	1.33	F
At Manhattan Beach Blvd.:									
Aviation	M	755	2	0.42	A	2,030	2	1.13	F
Rindge (s/o)	C	150	2	0.12	A	395	1	0.61	B
Freeman (n/o)	M	135	2	0.08	A	1,135	2	0.63	B
Vail (s/o)	C	135	2	0.10	A	630	1	0.97	E
Inglewood	M	1,055	2	0.59	A	2,300	2	1.28	F
At Artesia:									
PCH	M	1,220	2	0.68	B	2,435	2	1.35	F
Aviation	M	1,165	2	0.65	B	2,050	2	1.14	F
Rindge	C	295	2	0.23	A	405	1	0.62	B
Inglewood	M	980	2	0.54	A	1,755	2	0.98	E
Kingsdale (s/o)	S	450	1	0.64	B	325	1	0.46	A
At Herondo/ Anita/ 190th:									
Harbor	C	515	2	0.40	A	460	1	0.71	C
Prospect (n/o Beryl)	M	740	2	0.41	A	950	2	0.53	A
Rindge (n/o)	C	290	2	0.22	A	220	1	0.34	A
Hawthorne (@ 182nd)	M	2,455	4	0.68	B	1,190	4	0.33	A
At Torrance:									
Catalina	S	765	2	0.55	A	1,225	2	0.88	D
PCH	M	1,040	2	0.58	A	2,125	2	1.18	F
Prospect (n/o)	M	710	2	0.39	A	1,400	2	0.78	C
At Knob Hill:									
Catalina	S	320	2	0.23	A	195	2	0.14	A
PCH (s/o)	M	610	2	0.34	A	1,560	2	0.87	D
Prospect (@ Camino Real)	M	470	2	0.26	A	395	2	0.22	A
Prospect (@ Palos Verdes)	M	315	2	0.18	A	115	2	0.06	A

TABLE 43 (Cont.)

EAST-WEST STREETS

EAST-WEST STREETS		Eastbound				Westbound			
Screenline: Street	Function	Volume	No. of		LOS	Volume	No. of		LOS
			Lanes	V/C			Lanes	V/C	
At Pacific Coast Highway:									
Artesia/Gould	M	390	2	0.22	A	895	2	0.50	A
Catalina (w/o)	S	505	2	0.36	A	770	2	0.55	A
Beryl	S	190	2	0.14	A	270	2	0.19	A
Torrance	S	775	2	0.55	A	1,025	2	0.73	C
Avenue I - w/Elena	S	175	2	0.13	A	120	2	0.09	A
Palos Verdes (w/o)	M	705	2	0.39	A	1,245	2	0.69	B
At Aviation:									
Marine	M	885	2	0.49	A	1,005	2	0.56	A
Manhattan Beach	M	945	2	0.53	A	1,350	2	0.75	C
Robinson (e/o)	C	135	1	0.21	A	120	1	0.18	A
Artesia	M	1,255	2	0.70	B	1,305	2	0.73	C
Grant (e/o)	C	805	2	0.62	B	835	2	0.64	B
At Freeman-Rindge-Prospect:									
Marine	M	1,500	2	0.83	D	900	2	0.50	A
Manhattan Beach	M	1,490	2	0.83	D	1,275	2	0.71	C
Robinson (e/o Vail)	C	345	1	0.53	A	305	1	0.47	A
Artesia	M	1,335	2	0.74	C	1,565	2	0.87	D
Grant	C	860	2	0.66	B	785	2	0.60	A
Anita	M	715	2	0.40	A	1,175	2	0.65	B
Del Amo (w/o Maria)	S	185	1	0.26	A	225	1	0.32	A
Torrance	M	670	2	0.37	A	1,390	2	0.77	C
Sepulveda (Camino Real)	M	310	2	0.17	A	690	2	0.38	A
Palos Verdes	M	590	2	0.33	A	865	2	0.48	A
At Inglewood:									
Marine (e/o	M	1,920	2	1.07	F	725	2	0.40	A
Manhattan Beach	M	2,255	2	1.25	F	1,075	2	0.60	A
Artesia	M	1,370	2	0.76	C	1,650	2	0.92	E
Grant	C	765	2	0.59	A	620	2	0.48	A
182nd (@ Hawthorne)	S	755	1	1.08	F	990	1	1.41	F
190th	M	1,410	2	0.78	C	1,930	2	1.07	F
190th (w/o Hawthorne)	M	1,200	2	0.67	B	1,730	2	0.96	E

Capacities

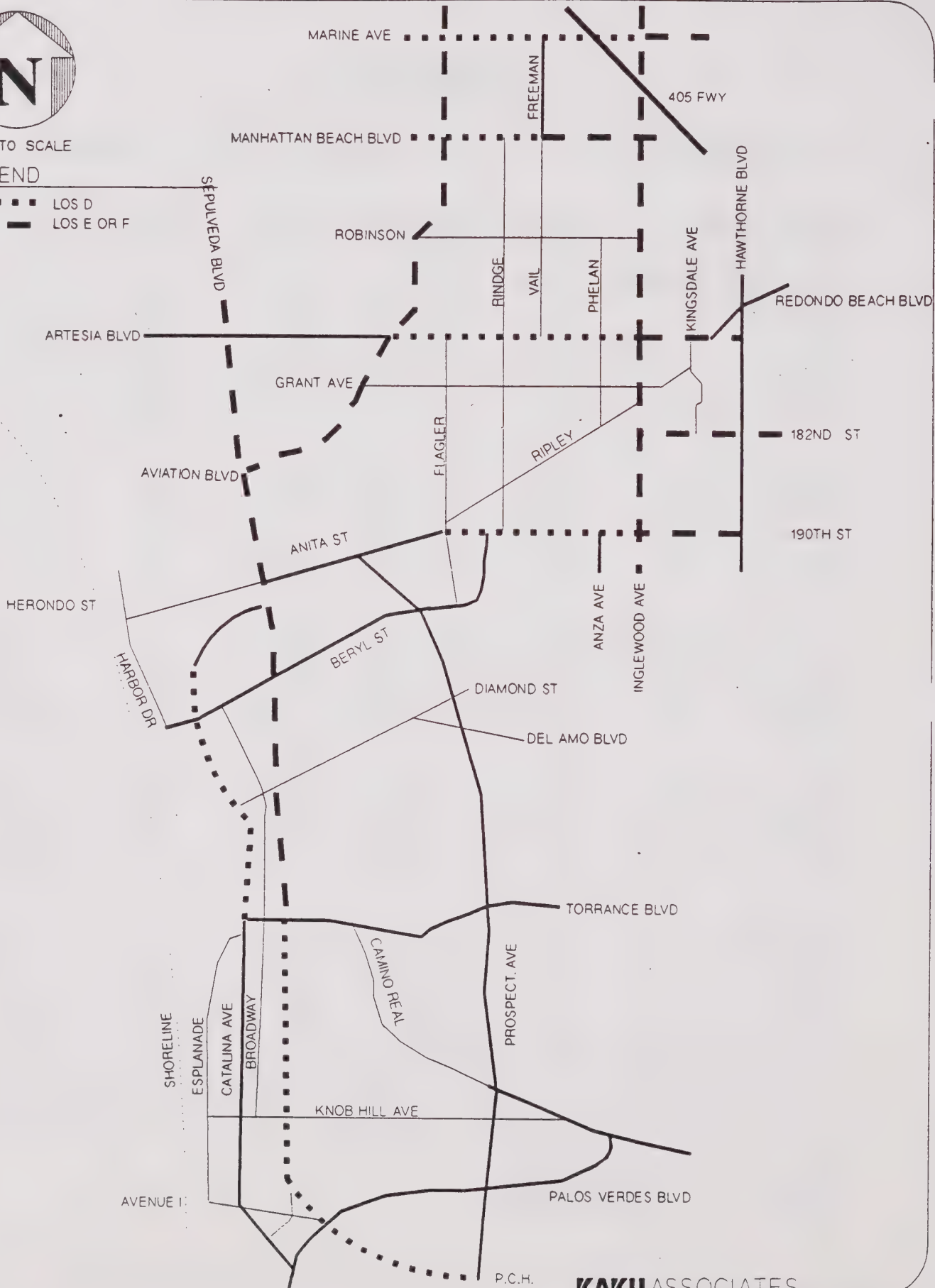
Major	900 vphpl
Secondary	700 vphpl
Collector	650 vphpl



NOT TO SCALE

LEGEND

- LOS D
- LOS E OR F



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EXISTING LOCAL P.M. PEAK HOUR
TRAFFIC CONGESTION LOCATIONS

FIGURE
14

The current level of pedestrian activity does not appear to significantly impact vehicular circulation outside the specific areas identified, as major pedestrian areas and vehicular routes are generally sufficiently separated.

Pedestrian activity in residential areas is primarily related to children playing and walking to/from school. Where traffic volumes on local streets are low, there is little potential for conflict. This is generally the case in the southern section of the city. However, a number of north-south streets in the northern section of the city experience traffic volumes inconsistent with the intended function of local streets.

3.1.2 Summary of Existing Transportation and Circulation Findings

The previous portions of this section inventoried and quantified transportation and circulation conditions existing in the City of Redondo Beach. The following portion summarizes the findings of this phase of the analysis, and presents a general menu of transportation and circulation related issues which were analyzed during the planning process of the General Plan Update.

Traffic Flow

- Poor traffic conditions are primarily experienced in the northern section of the City, due to high travel demand but limited street carrying capacity. High travel demand is largely a result of large employment centers north of city, combined with residential uses southeast of and within the city. Limited street capacity is a result of few streets capable of carrying large traffic volumes.
- Traffic carrying capacity along two major arterials, Pacific Coast Highway (PCH) and Artesia Boulevard, are also limited by commercial uses along each corridor with on-street parking and large numbers of traffic signal installations.
- A number of truck routes are identified in the City, generally including all major arterial streets. The designated routes are currently adequate to serve the area, with commercial uses generally restricted to these corridors.

On-Street Parking

- Parking is allowed along most major streets in the City. While supplying parking to supplement deficiencies in off-street parking availability, on-street parking reduces the available rights-of-way for traffic carrying lanes.

- A number of factors have precluded parking prohibition, the most prevalent of which include: involvement of multiple jurisdictions with inconsistent priorities, and the shortage of off-street parking supply for many of the older commercial areas along the coastal section (including PCH) of the city.
- On-street parking in residential areas inhibits mobility into and out of driveways, and also limits visibility at some locations.

Public Transit Service and Bicycle Routes/Circulation

- The existing transit services provide good local service for the community, with upcoming light rail service offering regional service in the near future.
- Bicycle facilities, despite detailed investigation in 1975, remain primarily directed at recreational users. Continuing demand for on-street parking and motor vehicle capacity has limited expansion of the bicycle network.

Pedestrian Circulation

- Pedestrian issues in the city are primarily limited to two activities: commercial patron circulation in the coastal area, and child-related activity in residential areas. Where commuter traffic has become an issue in residential areas, pedestrian circulation has suffered.

3.1.3 Analysis of the Transportation and Circulation Impacts of the Proposed General Plan

The following portion of the document provides an overview of the traffic analysis conducted to assess the potential impacts of the maximum buildout (i.e., land use designations and densities) of the land use plan that is contained within the proposed General Plan.

The actual methodology and results of the validation testing of the traffic model program used in this analysis are presented and explained in the free-standing appendix to this document.

Traffic Generation

For traffic analysis purposes, the City has been broken up into 26 separate geographic sub-areas depicted as traffic analysis zones, or TAZ's (Figure 15). A summary of the estimated "post-buildout" traffic generation for these various zones of the City is shown (Table 44).

SHORELINE



NOT TO SCALE

SEPULVEDA BLVD

MARINE AVE

AVIATION BLVD

INGLEWOOD AVE

COMPTON BLVD

MANHATTAN BEACH BLVD

ARTESIA BLVD

190TH ST

HAWTHORNE BLVD

TORRANCE BLVD

PROSPECT AVE

PACIFIC COAST HWY

ESPLANADE

175

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EXISTING LOCAL TRAFFIC ANALYSIS ZONE
(TAZ) INDEX

FIGURE
15

TABLE 44

General Plan Draft Land Use Plan
Existing Conditions and Maximum Buildout Local Traffic Generation

TAZ	Existing			Preferred Land Use			Increase (Trips)			Increase (Percent)		
	Total	In	Out	Total	In	Out	Total	In	Out	Total	In	Out
175	5,970	911	5,059	8,673	2,071	6,602	2,703	1,160	1,543	45%	127%	30%
176	1,771	1,119	653	2,008	1,263	745	237	145	92	13%	13%	14%
177	2,931	1,668	1,263	3,659	2,040	1,618	728	373	356	25%	22%	28%
178	1,030	597	434	1,222	700	522	191	103	88	19%	17%	20%
179	1,864	1,001	864	2,481	1,305	1,176	617	304	313	33%	30%	36%
180	1,100	690	410	1,234	770	464	133	80	54	12%	12%	13%
181	662	430	232	757	492	265	96	62	34	14%	14%	14%
182	2,155	1,166	989	2,983	1,481	1,502	828	315	513	38%	27%	52%
183	5,156	2,457	2,699	5,946	2,677	3,270	790	220	570	15%	9%	21%
184	1,043	521	522	1,184	583	601	141	62	79	13%	12%	15%
185	774	474	301	818	479	321	43	23	20	6%	5%	7%
189	430	237	193	448	246	202	18	9	9	4%	4%	5%
190	285	34	251	285	34	251	0	0	0	0%	0%	0%
191	1,288	614	674	1713	822	890	425	209	216	33%	34%	32%
192	808	477	331	1,061	589	472	253	112	142	31%	23%	43%
193	757	361	396	768	368	400	11	7	4	1%	2%	1%
194	1,261	618	643	1,317	654	663	56	36	20	4%	6%	3%
195	733	435	298	912	517	395	179	82	98	24%	19%	33%
196	3,692	1,980	1,712	4,342	2,263	2,079	650	283	367	18%	14%	21%
197	1,600	853	748	1,701	899	803	101	46	55	6%	5%	7%
198	1,517	706	812	1,605	740	865	88	35	53	6%	5%	7%
199	1,173	612	560	1,728	863	865	556	250	305	47%	41%	54%
200	733	402	331	1,308	628	679	575	227	348	78%	56%	105%
201	694	398	296	808	443	365	114	45	69	16%	11%	23%
202	1,536	797	739	1,824	919	905	287	122	165	19%	15%	22%
203	1,983	942	1,041	2932	1352	1579	949	410	538	48%	44%	52%
Totals	42,946	20,495	22,451	53,716	25,215	28,501	10,770	4,720	6,050	25%	23%	27%

As indicated in Table 44, a complete buildout of the land use component of the proposed General Plan would be expected to increase peak hour trip-making within the city by a total of roughly 26 percent over existing conditions. It should be explained that these figures represent trips which either start or end (or start and end) within the specified zones, and do not include traffic which passes through the zones, or the city in general (i.e., regional traffic), without stopping.

It should also be understood that the future traffic volume generation rates reflect the "worst-case" conditions that would be experienced at the absolute potential maximum buildout of the City (i.e., the buildout that would occur if every parcel in the City were to be built out to their maximum possible building density). The actual future buildout (and resultant future traffic generation rates) are expected to be significantly lower than this maximum total:

The expected level of traffic volume increases vary in different areas of the city, with the greatest increase expected in TAZ 175, at the north end of the city (including TRW, industrial uses and proposed warehouse commercial uses), and in TAZ 203, at the south end of the city along Pacific Coast Highway (proposed to accommodate a maximum total of approximately 400,000 square feet of additional commercial development under the updated General Plan).

Level of Service Findings

This potential additional traffic, combined with currently forecast traffic increases external to the city (i.e., regional development), have been assigned to the street system through the computer model to estimate the resulting levels of service on specific streets. Two different "buildout" scenarios were analyzed to contrast the source of traffic volume increases:

- (1) Year 2010 No-Growth, which assumes no change from existing land uses within the City (i.e., no additional buildout), but includes travel demand increases from the surrounding areas (i.e., regional growth) as forecast by the Southern California Association of Governments (SCAG) to the year 2010; and
- (2) Year 2010 Full Buildout, which assumes the maximum buildout of the preferred land uses within the City, and includes travel demand increases from the surrounding areas (i.e., regional growth) as forecast by SCAG to the year 2010.

A number of transportation improvement projects currently under construction or programmed for the city and the area were assumed to be in place for the purpose of this analysis, including:

- Operation of the I-105 (Century) Freeway between Sepulveda Boulevard and the I-605 Freeway.
- Operation of the Metro Green Line Light Rail between Norwalk and its terminal station north of Marine Avenue.
- Widening of Manhattan Beach Boulevard to six lanes between Aviation Boulevard and Inglewood Avenue.

The resulting Level of Service LOS estimates generated by these scenarios are summarized in Figures 16 and 17.

As is shown, poor levels of service (LOS E or F) would be expected along several streets under both scenarios, including, for example: the north section of Pacific Coast Highway, Aviation Boulevard north of Artesia Boulevard, Inglewood Avenue, North Catalina Avenue, Marine Avenue and Manhattan Beach Boulevard east of Redondo Beach Avenue, Beryl Street east of Pacific Coast Highway, Grant Avenue, and 190th Street near Anza Avenue.

Relatively few locations show a difference in LOS between the two scenarios, with some particular exceptions: the south section of Pacific Coast Highway and South Catalina Avenue, for example.

In addition, while not indicated in the figures, intensification of commercial uses along Artesia Boulevard may also require circulation improvements due to localized driveway, parking and pedestrian needs. Since the travel demand model is intended to evaluate regional travel demands, more focused evaluation may be necessary for specific areas of this nature.

In order to further examine the actual sources of increased traffic on streets in Redondo Beach in the context of the Update of the General Plan, the results of the traffic model were reviewed in further detail to determine the origins and destinations of traffic on particular major streets. Three specific street segments were examined at the additional level of detail:

- (1) Pacific Coast Highway (south of Beryl Street);
- (2) Artesia Boulevard (west of Inglewood Avenue); and
- (3) Inglewood Avenue (north of 190th Street).

The results of this review were relatively consistent among the three street segments analyzed. Through traffic (traffic which neither begins nor ends within the city) would be expected to comprise 30 to 40 percent of the full plan buildout (year 2010) traffic volumes on these streets. Trips with one end within the city (either the origin or destination, but not both) comprise 50 to 60 percent of the total traffic volumes. The remainder, which varied from five to 20 percent, includes traffic which both starts and ends within the city.

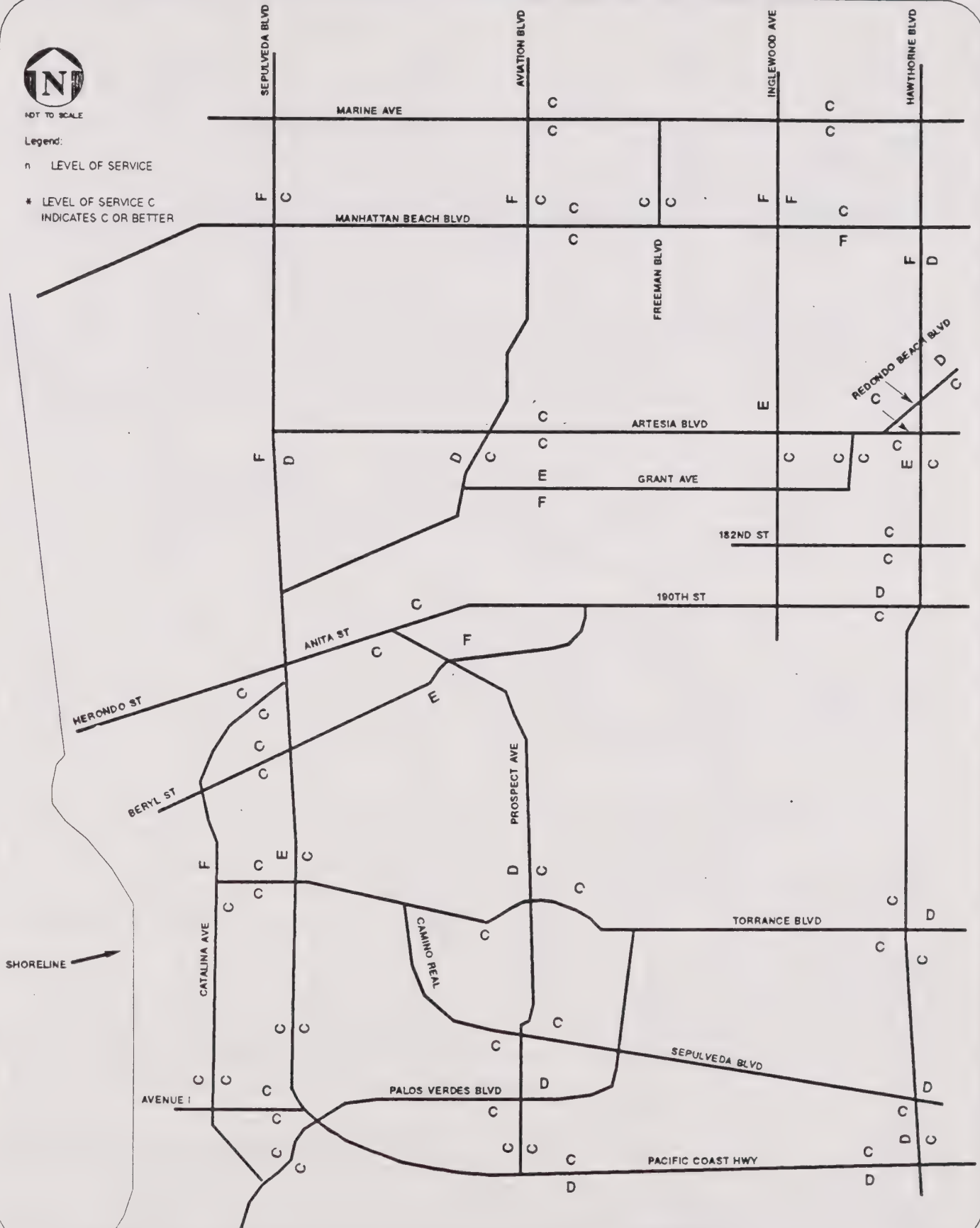


NOT TO SCALE

Legend:

n LEVEL OF SERVICE

* LEVEL OF SERVICE C INDICATES C OR BETTER



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PROJECTED LOCAL P.M. PEAK HOUR "POST-BUILDOUT"
LEVEL OF SERVICE ESTIMATES (SCENARIO 1)

FIGURE
16

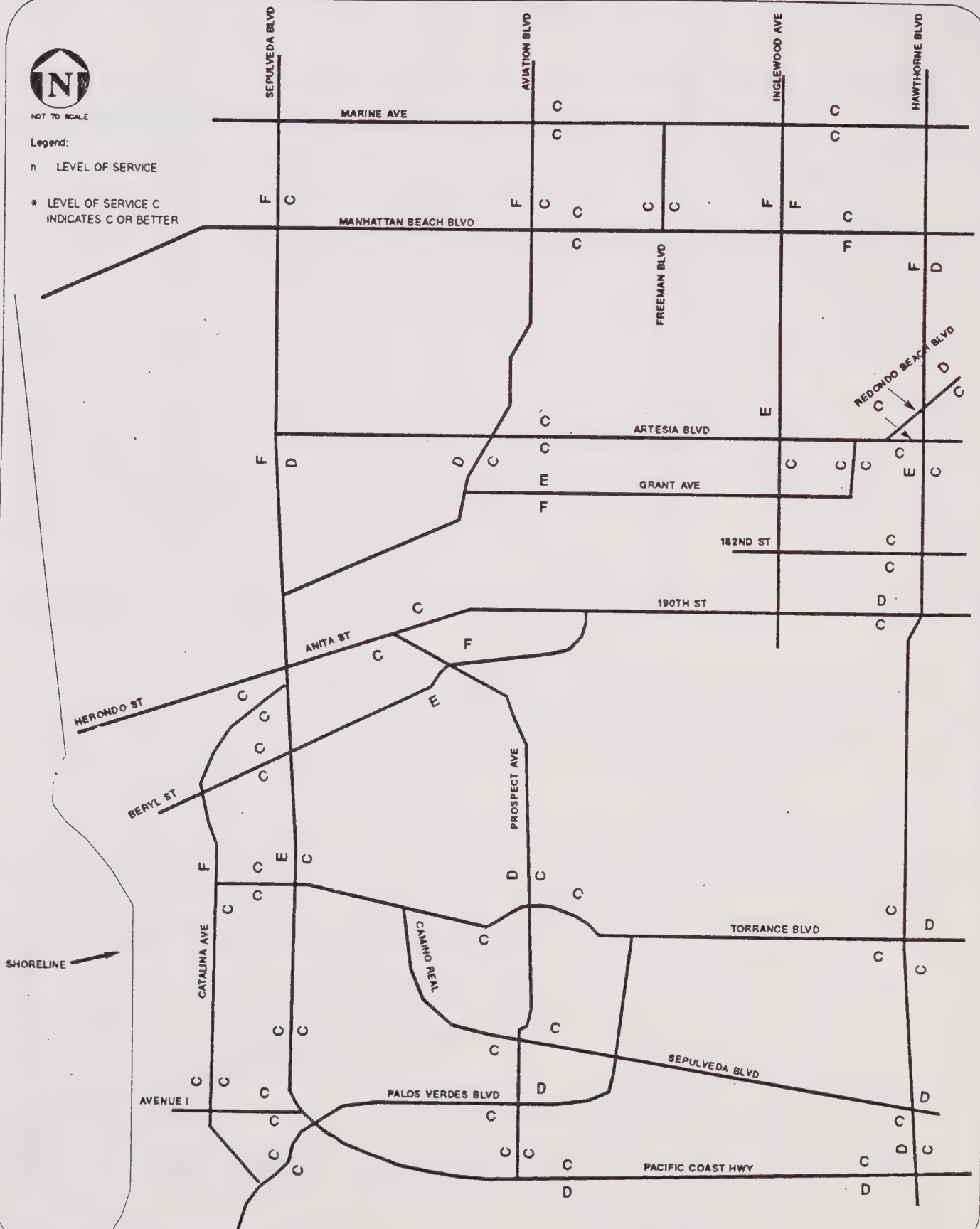


NOT TO SCALE

Legend:

n LEVEL OF SERVICE

* LEVEL OF SERVICE C
INDICATES C OR BETTER



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PROJECTED LOCAL P.M. PEAK HOUR "POST-BUILDOUT"
LEVEL OF SERVICE ESTIMATES (SCENARIO 1)

FIGURE
17

Level of Service Goals

As indicated in the background and introduction portion of this section of the document, level of service, or LOS, is a qualitative measure typically used in the transportation planning and engineering field to describe the operation of transportation facilities. The following discussion describes levels of service, and is primarily drawn from the Highway Capacity Manual, 1985, by the Transportation Research Board of the National Research Council.

The LOS concept is defined as “a qualitative measure describing operational conditions within a traffic stream and their perception by typical motorists.” Six levels of service are defined for various types of facilities, and are given letter designations, from A to F, with LOS A representing the best operating conditions and LOS F the worst.

A fundamental component of the transportation and circulation component of the General Plan is the establishment of achievable level of service (LOS) goals for the community, since this criteria (to a large degree) determines the magnitude of resources which must be dedicated to maintaining adequate circulation.

For example: given the expected increase in travel demand within and around Redondo Beach over the next 20 years, selection of LOS B as the minimum acceptable “peak period” level of service within the City would require the dedication of extensive resources (in the form of property dedications along streets expected to operate below this level, traffic operational equipment costs, travel demand management administrative expenses, etc.) for achieving this goal.

In contrast, selection of LOS E as acceptable peak period operation would require less property dedication, since fewer streets are likely to experience “substandard” operation. However, reduced right-of-way requirements would be offset by increased traffic congestion on major streets, and increased likelihood of through-traffic intrusion on neighborhood streets.

A modified approach to this policy decision would be to establish different LOS standards for particular areas of the city or along certain streets. This strategy could, for example, establish LOS D as the goal for all areas of the city except for Pacific Coast Highway, where LOS E is considered acceptable in recognition of constrained rights-of-way along that arterial.

Options for Mitigating Traffic Impacts

Irrespective of the level of service policy (if any) which is eventually selected for Redondo Beach, prevailing traffic conditions in the South Bay area will necessitate implementation of a number of traffic mitigation measures. These measures are

aimed at maintaining acceptable levels of service and mobility within the city; several options are available for approaching General Plan-level traffic mitigation, most of which can be broadly classified as either capital improvements or transportation demand management (TDM).

Capital Improvements

For the purpose of increasing traffic carrying capacity, capital improvements primarily include street widenings to provide additional travel lanes. Based on the projected traffic demand under the maximum buildout of the Preferred Land Use Scenario, and under the preliminary assumption that LOS D represents the limit of acceptable PM peak period traffic operations, a list of potential street improvement projects has been prepared (Table 45).

The street widenings included in the list are intended to illustrate the magnitude of street improvements which would be necessitated by the preceding land use and level of service assumptions. These projects should also be considered the maximum likely street widenings in the locations listed (without extensive right-of-way acquisition). These limited measures may be insufficient for achieving complete traffic mitigation; that is, implementation of all the measures listed will still result in substandard operations in some specific locations.

The following issues should also be raised and presented relative to subject of capital improvements:

- A number of existing "collector" streets in the city which have recently been restriped from four travel lanes to two lanes are expected to operate at poor levels under future "maximum buildout" conditions. These include, in particular, Grant Avenue and Beryl Street. While the current two-lane configurations have improved the access functions of these streets, four-lane configurations provide the potential for substantially greater movement capacity. Consideration should be given to the desirability of either maintaining the current street layouts or reconfiguration under the expected poor future operation.
- As previously mentioned, Artesia Boulevard may also require further examination, dependent upon the intensity and level of specificity which will be attributed to this area within the General Plan update process.
- The evaluation has been focused on those streets which are to some extent under the jurisdiction of the City of Redondo Beach. Surrounding transportation facilities, most notably the I-405 (San Diego) Freeway, are also expected to operate at or over capacity under future conditions.

TABLE 45

Considered Transportation/Circulation Street Improvements

Street	From	To	Consider	Jurisdiction
Artesia Boulevard	w/o Inglewood Avenue	Kingsdale Street	6 lanes	Redondo Beach, Caltrans
Aviation Boulevard	Manhattan Beach Boulevard	Artesia Boulevard	3rd SB lane	Redondo Beach, Manhattan Beach
Inglewood Avenue	Marine Avenue	Artesia Boulevard	6 lanes	Redondo Beach, Lawndale
Manhattan Beach Boulevard ^[1]	Aviation Boulevard	Inglewood Avenue	6 lanes and dual LT	Redondo Beach
Marine Avenue	Freeman Boulevard	Inglewood Avenue	6 lanes	Redondo Beach
Pacific Coast Highway	Herondo Avenue	South City Limit	5-6 lanes	Redondo Beach, Caltrans

^[1] Improvement assumed to be in place in base scenario.

- Provisions for the dedication of additional public street area in and around new development projects at the time of construction will be an important and efficient means of achieving the lane widenings recommended in the menu of potential capital improvements.

Transportation Demand Management (TDM) Measures

The second major category of traffic mitigation measures is frequently termed transportation demand management (TDM). These measures are operational activities directed at reducing the demand for vehicular travel by influencing the user, through various techniques which either: increase vehicle occupancy, reduce the frequency and/or distance of needed travel, or shift travel demand outside of on-street peak periods. Various options pursued as potential transportation demand management measures include:

- Information and Marketing
- Rideshare Matching
- Vanpool Brokerage
- Parking Management
- Alternative Work Schedules
- Local Employment Markets
- Transit Fare Subsidies
- Transit Service Improvements
- Park-n-Ride Facilities
- Bus Stop Lighting Improvements
- Bicycle Facilities

The list does not present the entire menu of available transportation demand management mechanisms, and does not include a comprehensive specific analysis of each item. The list does, however, present a representative range of options which are frequently pursued as part of a TDM program. All, or a number of these measures, could be encouraged through policies of the Redondo Beach General Plan.

3.1.4 Goals, Objectives and Policies

The following presents the goals, objectives, and policies relative to the Transportation and Circulation section of the General Plan, organized and ordered under the following topics: 1) general transportation and circulation systems; 2) master plan of streets and street standards; 3) capital improvement program elements; 4) transportation demand management program elements; 5) transportation system management program elements; 6) public transportation; 7) bicycle circulation; 8) pedestrian circulation; and 9) parking.

Issue **GENERAL TRANSPORTATION AND CIRCULATION SYSTEMS**

Goal *It shall be the goal of the City of Redondo Beach to:*

5A Provide an integrated, balanced, safe, efficient, and environmentally sensitive transportation system that will accommodate the circulation needs of the City of Redondo Beach, while, at the same time, considering regional and inter-community transportation needs and demands.

Objective *It shall be the objective of the City of Redondo Beach to:*

5.1 Provide a comprehensive and efficient local transportation system that will accommodate the types and levels of circulation demands projected to be generated pursuant to the development forecast within the Land Use Element of the General Plan and work proactively and cooperatively with other jurisdictions and governmental transportation agencies in seeking solutions to the transportation problems and issues affecting the city.

Policies *It shall be the policy of the City of Redondo Beach to:*

5.1.1 Maintain a traffic commission which shall investigate and advise city decision-makers on local traffic and circulation issues.

5.1.2 Achieve and maintain, to the extent feasible and compatible with other goals, peak period levels of service on all city streets as follows:

- LOS D on major, secondary and collector streets;
- LOS C on local streets; and
- LOS E on State Highways.

5.1.3 Participate in and contribute to efforts to plan, implement, and regulate transportation systems with adjacent cities and metropolitan transportation agencies.

5.1.4 Monitor traffic volumes and levels of service on the City's streets on a continuing basis and determine the appropriateness of and, as necessary, modify the street improvements, public transit, Transportation System Management Programs, and Transportation Demand Management Programs and/or the land use buildout capacities specified by the General Plan to achieve an acceptable level of service.

Issue	<u>MASTER PLAN OF STREETS AND STREET STANDARDS</u>
Goal	<i>It shall be the goal of the City of Redondo Beach to:</i>
5B	Adopt a Master Plan of Streets and Highways and program of Street Standards, that will adequately reflect and serve the city's traffic and circulation needs.
Objective	<i>It shall be the objective of the City of Redondo Beach to:</i>
5.2	Develop, update, and maintain a Master Plan of Streets and program of Street Standards which illustrate the designations and acceptable levels of service on all Major Arterials, Secondary Arterials, and Collector streets as well as narrative descriptions of street classifications and minimum local right-of-way construction and improvement standards.
Policies	<i>It shall be the policy of the City of Redondo Beach to:</i>
5.2.1	Formally establish the Master Plan of Streets, as shown in Figure 5 , which identifies the relative mobility and access priorities throughout the city.
5.2.2	Reasonably cooperate with the State of California Department of Transportation (Caltrans) to implement traffic capacity improvements along State routes, while preserving the integrity and viability of local commercial and residential areas.
5.2.3	Require as a condition of development along major arterials, secondary arterials, and collector streets the provision of adequate rights-of-way and/or installation of turn lanes, signalization, and/or other traffic controls, as needed to achieve and maintain acceptable traffic operations. The determination of specific locations requiring dedications for deceleration lanes, acceleration lanes, or other capital/operational improvements shall be subject to review by the City Engineer.
5.2.4	Require that all streets and highways be platted according to the following minimum standards, except in situations where the City of Redondo Beach determines that adhering to these standards is infeasible or unjustified. Increased widths may be required where streets are to serve commercial property or where anticipated traffic conditions warrant such increases.

<u>Right-of-Way Classification</u>	<u>Right of Way Width (in Feet)</u>	<u>Pavement Width (in Feet)</u>
A. Major arterials	100	84
B. Secondary arterials	84	64
C. Residential collector streets	60	40
D. Industrial service streets	80	60
E. Minor residential streets	56	36
F. Frontage roads	42	30
G. Alleys	25	25
H. Cul-de-sacs: a minimum right-of-way width of sixty (60') feet and a minimum pavement width of forty (40') feet terminating in a circular turnaround with a minimum right-of-way diameter of ninety (90') feet and a minimum pavement diameter of seventy (70') feet. A cul-de-sac shall not normally have a greater length than 400 feet.		

5.2.5 That truck routes shall be designated along the following arterials, or as may be modified to reflect traffic and environmental conditions:

- A. 190th/Anita Street
- B. Artesia Boulevard
- C. Aviation Boulevard
- D. Hawthorne Boulevard
- E. Inglewood Avenue
- F. Manhattan Beach Boulevard
- G. Marine Avenue
- H. Pacific Coast Highway
- I. Redondo Beach Boulevard
- J. Torrance Boulevard

5.2.6 Maintain current information regarding the traffic volumes and the operational characteristics of the City's streets as the basis for network, capital improvement, transportation management, and other planning and implementation functions and to evaluate proposed development projects.

Issue STREET IMPROVEMENT PROGRAM ELEMENTS

Goal *It shall be the goal of the City of Redondo Beach to:*

5C Provide for the planning, design, and construction of capital improvement projects that will provide the capacity to accommodate the levels and types of vehicle and bicycle traffic generated by the

development forecast within the Land Use Element of the General Plan.

Objective *It shall be the objective of the City of Redondo Beach to:*

5.3 Implement capital improvement projects which will enhance transportation facilities and provide for the improvement of levels of service and safety over existing traffic operations.

Policies *It shall be the policy of the City of Redondo Beach to:*

5.3.1 Consider a program of street improvements, including, but not limited to those listed in Table 45, when necessary, to maintain adopted levels of service standards, in cooperation with adjoining jurisdictions (where applicable). Street improvements shall only be considered where the implementation of Transportation Demand Management Programs and Transportation System Management Programs are not sufficient to achieve acceptable levels of service.

Issue TRANSPORTATION DEMAND MANAGEMENT PROGRAM ELEMENTS

Goal *It shall be the goal of the City of Redondo Beach to:*

5D Improve the operating efficiency of the city's transportation and circulation system by reducing peak hour vehicular trips and travel through the implementation of Transportation Demand Management (TDM) Program Elements.

Objective *It shall be the objective of the City of Redondo Beach to:*

5.4 Research, compile, and develop a range of Transportation Demand Management (TDM) Program Elements that, where feasible and appropriate, can be put into effect to maximize the use of alternative means of transportation and reduce the demand for private vehicular traffic.

Policies *It shall be the policy of the City of Redondo Beach to:*

5.4.1 Consider programs to reduce vehicular travel demand, including, but not limited to, the following measures:

- A. Information and Marketing
- B. Rideshare Matching

- C. Vanpool Brokerage
- D. Parking Management
- E. Alternative Work Schedules
- F. Local Employment Markets
- G. Transit Fare Subsidies
- H. Transit Service Improvements
- I. Transit Facility Improvements
- J. Park-n-Ride Facilities
- K. Bicycle Facility Improvements

- 5.4.2 Encourage the private sector to participate in Transportation Demand Management programs, through efforts including, but not limited to, facilitating coordination among companies operating within the city.

Issue TRANSPORTATION SYSTEM MANAGEMENT PROGRAM ELEMENTS

Goal *It shall be the goal of the City of Redondo Beach to:*

- 5E Improve the operating efficiency of the city's transportation and circulation system through the implementation of Transportation System Management (TSM) Program Elements.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 5.5 Research, compile, and develop a range of Transportation System Management (TSM) Program Elements (e.g., striping, signal modification, etc.) that can be put into use to improve existing substandard traffic conditions.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 5.5.1 Pursue, subject to evaluation by the City Engineer and public review and consistency with other City goals, transportation system management measures prior to the implementation of capital improvement projects.

Priority shall be given to the following strategies:

- A. Traffic Signal Monitoring - Through either automated or manual means, traffic signals shall be monitored and adjusted as needed to ensure maximum traffic flow efficiency during peak periods.

- B. Traffic Signal Synchronization - Minimum interruption of traffic flow on major arterials, followed by secondary arterials, shall be a priority. Traffic signal timing and sequence shall reflect this priority through synchronization of traffic signals along these arterials.
- C. Parking Prohibition on Major Arterials - Additional travel lanes shall be provided through peak traffic period or full-time prohibition of on-street parking, where adequate alternative parking supplies exist or can be made available.
- D. Neighborhood Traffic Control Plans - Where existing or anticipated traffic conditions on local streets are not consistent with their intended use, as described in the freestanding Model Validation Appendix, measures shall be pursued to correct these conditions.
- E. Reversible Lanes - Where traffic flows on particular streets or corridors are unbalanced during peak periods, the normal operating direction of lanes shall be reversed to reallocate traffic capacity to better match traffic demand.

Issue **PUBLIC TRANSPORTATION**

Goal *It shall be the goal of the City of Redondo Beach to:*

5F Reduce traffic volumes and enhance the mobility of residents, businesspeople, and visitors through the use of public transportation systems.

Objective *It shall be the objective of the City of Redondo Beach to:*

5.6 Expand the availability and improve the efficiency of public transportation systems, particularly for the disadvantaged, including the elderly, the physically-challenged, students, and lower-income persons.

5.6A Increase the use and awareness of public transportation systems throughout the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

5.6.1 Participate and assist, to the extent compatible with other goals, in development of the Los Angeles County rail transit system and other metropolitan-area public transportation programs.

- 5.6.2 Participate and assist, to the extent compatible with other goals, in expansion and development of public transportation programs with neighboring cities and other communities.
- 5.6.3 Continue to support transportation systems for the physically challenged, and ensure that all public transportation services supported by the City of Redondo Beach do not discriminate against users with disabilities.

Issue **BICYCLE CIRCULATION**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 5G Reduce traffic volumes and enhance the mobility of residents through increased use of bicycles as an efficient and environmentally sensitive mode of transportation.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 5.7 Increase the use of bicycles as a means of business/daily, recreational, and commuter travel by constructing and maintaining (on public property and at public facilities) and promoting (on private property and in private facilities) new bicycle facilities (paths, travel lanes, crossings, lights and circulation components, racks, and secure storage), coordinating the physical system of bikeways and bike paths, and increasing the public's awareness of the availability of these resources.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 5.7.1 Investigate and implement when feasible, facilities for safe and efficient bicycle travel on public rights-of-way.
- 5.7.2 Encourage the private sector to provide and maintain bicycle facilities as an element of Transportation Demand Management programs.

Issue **PEDESTRIAN CIRCULATION AND FACILITIES**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 5H Encourage pedestrian circulation, non-discriminatory access, and safety as an important component of the city's overall transportation and circulation system, and enhance the mobility of its citizens and visitors through the use of this system.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 5.8 Maintain and make improvements, as required, necessary, and feasible, to the pedestrian circulation system, in order to guarantee an efficient, safe, and fully accessible pedestrian circulation system that will enhance the movement of pedestrians.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 5.8.1 Ensure that safe pedestrian circulation is provided along all public rights-of-way.
- 5.8.2 Require that new private development specifically provide for pedestrian access by means of site and building configuration, consistent with potential demand.
- 5.8.3 Continue the installation of wheelchair ramps and other devices within public rights-of-way, and require that all new development be accessible from the public right-of-way for the physically challenged.

Issue **PARKING**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 5I Provide on-street and off-street parking facilities to meet the needs of all users, consistent with other goals and objectives, including the protection of the quality of life of residents.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 5.9 Adopt regulations and pursue the provision of facilities to satisfy the parking needs of the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 5.9.1 Require that all new development provide an adequate off-street parking supply and management system in accordance with anticipated demands.
- 5.9.2 Promote and/or participate in the development of joint-use parking facilities in non-residential locations where individual properties cannot feasibly provide adequate off-street parking supplies, or where more efficient use of these facilities would be gained through joint-use.

- 5.9.3 Periodically review and update off-street parking requirements, as necessary, to properly reflect the parking demands generated by various land uses.

3.1.5 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Transportation and Circulation Section. Each implementation program is followed by a numerical reference (in parentheses) indicating the policy or policies which it is intended to help implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

General Transportation and Circulation Systems

- A City of Redondo Beach Traffic Commission may be maintained to advise local decision-makers and citizens on transportation and circulation-related issues and matters. The Commission may be provided technical and other operational assistance by the City of Redondo Beach Department of Public Works (and other appropriate local government departments, as necessary) (*Policy 5.1.1*).
- The City Department of Public Works may, through the conduct and review of computerized and manual traffic counts, monitor and analyze level of service performance on local street segments, on at least an annual basis, to determine if such street segments are achieving the appropriate levels of service (LOS D on major, secondary, and collector streets; LOS C on local streets, and LOS E on State Highways). Staff may formally notify the Traffic Commission and Planning Commission, on at least an annual basis, of the performance of all local streets relative to these thresholds, and may recommend measures to assure conformance with these established thresholds, in order to allow proper action to maintain these minimum standards (*Policy 5.1.2,, 5.1.4 ,5.2.6*).
- The City Department of Public Works shall, on at least an annual basis, conduct formal meetings or, through other appropriate means of communication, maintain official dialogue with adjacent South Bay communities and regional transportation agencies, to discuss and address problems and issues related to the performance and operation of the regional transportation system and infrastructure. The City Department of Public Works shall formally report to the City Traffic Commission, City Planning Commission, and City Council on the content and results of these meetings or communications (*Policy 5.1.3, 5.2.2*).

Master Plan of Street and Street Standards

- The City Department of Public Works shall maintain, periodically update (but not less than every five years), and make available to the public (on request) a formal Master Plan of Streets, identifying and categorizing the various major arterials, secondary arterials, and collector streets in the community (*Policy 5.2.1*).
- The City Department of Public Works, through the existing local environmental and development review and approval process, shall review and comment on discretionary development proposals, and shall formally request the provision of adequate rights of way and traffic improvements/controls in and around such development projects (as needed and as allowable by law) to maintain acceptable traffic operations in the community (*Policy 5.2.3*).
- The City Department of Public Works shall require that, except where infeasible, all new or modified local streets and highways be designed and installed according to the minimum standards contained in the policy portion of the Transportation and Circulation Section of the General Plan (*Policy 5.2.4*).
- The City Department of Public Works shall maintain, periodically update, enforce, and make available to the public (on request) a formal Truck Route Plan, identifying and designating the various truck routes allowed within the community (*Policy 5.2.5*).

Street Improvement Program Elements

- The City Department of Public Works shall, on at least an annual basis (possibly in accordance with the development and refinement of the local operational and capital budget) review local circulation conditions and operations and prioritize, propose, and, when necessary, implement a series of transportation street improvements to maintain adopted levels of service standards. Street improvements shall be considered only where the implementation of Transportation Demand Management Programs and Transportation System Management Programs are not sufficient to achieve acceptable levels of service. (*Policy 5.1.4, 5.3.1*).

Transportation Demand Management (TDM) and Transportation System Management Program Elements

- The City Department of Public Works shall research, analyze, and evaluate potential means of and maintain an ongoing program for Transportation Demand Management [TDM] and Transportation System Management [TSM] elements (including those listed within the policy portion of the Transportation and Circulation Section of the General Plan), and shall pursue the implementation and use of these elements to improve local

transportation and circulation conditions. The implementation of these elements shall include but not be limited to the following means: 1) meeting with major local employers to inform them of the availability of such elements and the need for their use; 2) requiring that City employees implement all feasible elements in their commuting and employment practices; and 3) requiring the implementation of feasible elements through including them within the conditions of approval for new development projects and discretionary approvals issued by the City of Redondo Beach (*Policy 5.4.1, 5.4.2, 5.5.1*).

Public Transportation

- Representatives from the City Department of Public Works shall continue to monitor and participate in future planning, design, and construction proposals for rail transit systems that may impact or occur within the community (*Policy 5.6.1*).
- Representatives from the City Department of Public Works shall continue to formally coordinate with representatives of the Southern California Rapid Transit District (SCRTD), the Los Angeles County Transportation Commission (LACTC), and other appropriate regional transit agencies to assess and discuss the needs for modification and/or expansion to the local and regional public transit system (*Policy 5.6.2*).
- Continue to work with the Southern California Rapid Transit District (SCRTD) and managers and operators of the "Wave" to provide programs (including subsidizing pass costs) and more effectively respond to the specialized transportation and mobility needs of the physically-challenged and disadvantaged (*Policy 5.6.3*).

Bicycle Circulation

- The City Department of Public Works shall, on at least an annual basis, formally review and examine the design and operation of the existing local bicycle transportation system and facilities (both recreational and commuter). Following this review and examination, the Department shall list, prioritize, and pursue any necessary modifications of expansions to the system (as funding and overall transportation and circulation priorities allow) (*Policy 5.7.1*).
- The City Department of Public Works, as a component of the Transportation Demand Management (TDM) and Transportation System Management (TSM) program implementation, shall disseminate informational materials and shall encourage local private sector employers to provide and maintain

additional bicycle access and facilities as a means of increasing bicycle transportation as a major alternative means of transit (*Policy 5.7.2*).

Pedestrian Circulation and Facilities

- The City Department of Public Works shall, on at least an annual basis, formally review and examine the design and operation of the existing local pedestrian circulation system and facilities. Following this review and examination, the Department shall list, prioritize, and pursue any necessary modifications of expansions to the system (as funding and overall transportation and circulation priorities allow). Overall pedestrian safety and improved access and use of the system by the physically-challenged (including but not limited to the installation of wheelchair ramps and lower-level push-buttons and walk signal triggering devices) shall be an immediate priority in this area (*Policy 5.8.1, 5.8.3*).
- The City Department of Public Works, through the local discretionary development and environmental review and approval process for private development and the design review process for public development, shall require that projects provide for sufficient pedestrian access and use, through appropriate site and building configurations and design elements (*Policy 5.8.2*).

Parking

- The City Department of Public Works, through the local discretionary development and environmental review and approval process for private development and the design review process for public development, shall require that projects provide sufficient off-street parking supplies and management, in accordance with the parking space ratios and design requirements contained within the City of Redondo Beach Municipal Code (*Policy 5.9.1, 5.9.3*).
- The City Department of Public Works (in cooperation with the City Community Development (Planning) and City Building and Safety Departments) shall, on at least an annual basis, formally review and analyze existing local and accepted industry-wide parking demands and standards. Based on the results of this review and analysis, local off-street parking requirements and design standards within the City of Redondo Beach Municipal Code shall be updated and modified, as necessary, to reflect and respond to evolving conditions (*Policy 5.9.1, 5.9.3*).
- The City of Redondo Beach shall continue to participate in and promote the development of joint-use parking facilities (similar to those currently being

pursued in the Artesia Boulevard area and other established commercial areas) where necessary and feasible, to ensure the availability and efficient operation of adequate off-street parking within commercial districts of the community. Such efforts shall include, but not be limited to, the following: undertaking technical design and feasibility studies to target potential areas for such facilities; and conducting meetings with local property owners, merchants, and residents in the targeted areas to discuss the concepts and issues involved and plan for the provision and operation of such facilities (*Policy 5.9.2*).

SECTION 3.2

Utilities

3.2 UTILITIES

A key component in planning for the future development and growth of an area within the context of a General Plan is ensuring that the various utilities (public and private) operating in the local area and region are capable of providing services at the levels and in the locations necessary to support the demand generated by future land uses and activities. State of California Office of Planning and Research guidelines prescribe that the General Plan contain "policies and plan proposals for the development, improvement, and timing of major sewer, water, and drainage facilities" as well as "policies, plan proposals, and standards for the location of pipelines and facilities for the transmission of electricity."

The following section inventories and describes the existing jurisdictions, facilities, and operation of the critical utilities (i.e., sanitary sewer, storm drainage, water, electricity, natural gas, and telecommunications) that are provided within the City of Redondo Beach. The section also inventories and describes several specific utility-related infrastructure components that do not generally exist in all cities, but do exist in the City of Redondo Beach. These infrastructure components include the Groundwater (Seawater) Intrusion Barrier and the various Petroleum Extraction/Pipeline Facilities.

3.2.1 Sanitary Sewer Service

Sanitary sewer service is provided in the City of Redondo Beach through a coordinated multi-jurisdictional system containing different facilities, some of which are operated/maintained by the City of Redondo Beach Public Works Department and some of which are operated/maintained the County of Los Angeles Sanitation Districts. For the county's planning and operational purposes, the city actually falls within two geographically separate but equivalent districts: 1) County Sanitation District #5, which includes all of North Redondo Beach; and 2) the South Bay Cities Sanitation District, which includes all of South Redondo Beach.

Sewage is collected through the network of city and county sewer mains located below virtually every street in the city and pumped towards the east through pump stations into centralized larger "trunk lines" to be treated at the Joint Water Pollution Control Plant (part of the county's Joint Outfall System, which consists of six treatment plants and four submarine outfalls). This plant is operated and maintained by the Los Angeles County Sanitation Districts, and is located in the City of Carson, approximately five miles east of the city. This plant serves communities throughout the entire South Bay, as well as communities located as far east as Downey and as far north as Inglewood.

Based on residential per capita population totals and net built square footage totals for all commercial and industrial space city-wide, it is estimated that the average daily sewage generation rate for the City of Redondo Beach totaled approximately 14.5 million gallons per day (mgd) in 1989 (Source: Rosenberg and Associates, 1990).

The Joint Water Pollution Control Plant in Carson, California is currently treating sewage at a 12-month average flow of 382 million gallons per day (mgd); the plant has a design capacity of 385 million gallons per day (mgd), and a peak flow capacity of 770 million gallons per day (mgd). The plant's operational capacity is expected to increase in the future, as a result of the expected 1992 completion of the San Jose Creek Treatment Plant expansion, which currently diverts its daily excess sewage flow to the Joint Water Pollution Control Plant.

All sewage processed at the Joint Water Pollution Control Plant in Carson receives advanced primary treatment, 200 million gallons per day (mgd) (or 52 percent of the total) receives additional secondary treatment. The treated sewage is disposed into the ocean at submarine outfalls located at White's Point off of the Palos Verdes Peninsula.

Existing Facilities

The entire City of Redondo Beach sewer system includes approximately 550,000 linear feet (or approximately 104 miles) of sewer main, and approximately 1,750 manholes. The majority of the system is composed of 8-inch diameter sewer mains with some 10-inch, 12-inch, and 15-inch sewers (including the larger collection "trunk lines"). In addition, the local system contains a series of 11 pump stations owned, operated, and maintained by the Los Angeles County Sanitation Districts (Figure 18).

Analysis indicates that approximately 90 percent (totaling 495,000 linear feet) of the total sewer main length in the city is operated and maintained by the City of Redondo Beach Public Works Department. The remaining ten percent (totaling 55,000 linear feet) is operated and maintained by the County of Los Angeles Sanitation Districts (Figure 18).

The various sewer mains operated and maintained by the County of Los Angeles Sanitation Districts are concentrated in five specific areas of the city:

- (1) A main running northwest to southeast parallel to and due south of the San Diego (405) Freeway right-of-way between Marine Avenue and Manhattan Beach Boulevard in North Redondo Beach;
- (2) A main running north to south, originating at Marine Avenue and bisecting the southern half of the TRW complex running along Doolittle Drive, east along Manhattan Beach Boulevard, south along Rindge Lane, east along Bataan Road, south along Vail Avenue, east along Curtis Street, and south along Mackay Lane, terminating into the main at its intersection with Mathews Avenue;

Pacific Ocean

CITY OF
HERMOSA BEACH

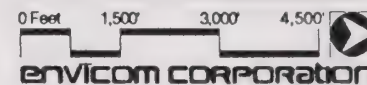
CITY OF
MANHATTAN BEACH

CITY OF TORRANCE

CITY OF LAWDALE

LEGEND

— COUNTY SEWER MAIN



EXISTING LOCAL LOS ANGELES COUNTY SEWER SYSTEM FACILITIES

FIGURE
18

- (3) A main running west to east, beginning at Pruitt Drive running due south of 184th Street to the City of Torrance boundary and connecting into Hawthorne Boulevard in the City of Torrance;
- (4) A main running north to south, beginning at the City of Hermosa Beach boundary due east of Francisca Avenue, running south and following Francisca Avenue, turning southwest following Beryl Street, turning south following Broadway, turning southwest following Carnelian Street, turning south following Catalina Avenue, turning southwest following Diamond Street, turning south running under the Harbor/Pier parking structure, turning east following Torrance Boulevard, turning south following the Esplanade, turning east up Avenue "D" to rejoin Catalina Avenue, turning south following Catalina Avenue, and terminating into a city sewer line at South Elena Avenue; and
- (5) A series of mains serving the old "Clifton Heights" area of the city, that was formerly under sole control by the County of Los Angeles, but was annexed by the City of Redondo Beach in the early 1980's. This area includes all the sewer mains serving a "reverse L-shaped" area approximately 15-acres in size, roughly bounded by Knob Hill Avenue to the north, the City of Torrance boundary to the east, Avenue "F" to the south, Prospect Avenue to the west, Avenue "D" to the south, and Pacific Coast Highway to the west.

System Status

The Preliminary Sewer Master Plan, prepared in January, 1990 for the City of Redondo Beach Public Works Department by consultant Donald G. Rosenberg & Associates, Incorporated, determined that the overall condition of the City's system (i.e., quality of the physical condition of the pipes, etc.) is above average; no significant leakage or caving problems have been experienced or reported.

The report has also concluded that the City's sewer system is currently operating at approximately 70 percent of the capacity projected at the ultimate buildout of the city under the existing General Plan. This analysis further translated into a conclusion that approximately 100,000 linear feet of sewer main (or 15 percent of the entire system) would be operating at or above design capacity by the year 2020 (based on buildout under existing zoning). These areas have been identified and highlighted (Figure 19). These impacts will be similar to those experienced under a full buildout of the maximum land use and building densities allowed under the Land Use Plan of the updated General Plan.

Pacific Ocean

CITY OF
HERMOSA BEACH

CITY OF
MANHATTAN BEACH

CITY OF TORRANCE

CITY OF LAWNDALE

LEGEND

— SEWER MAINS NEEDING ADDITIONAL CAPACITY BY YEAR 2010

0 Feet 1,500' 3,000' 4,500'

envicom CORPORATION

LOCAL SEWER FACILITIES PROJECTED TO OPERATE
AT OR ABOVE CAPACITY (YEAR 2010)

FIGURE
19

Planned Improvements

Within the findings of the aforementioned sewer master plan study, a list of the ten most critical sewer main facilities to be supplemented with parallel sewer mains for additional capacity were compiled and recommended (two of which are major county trunk lines) (Table 46).

Because of the high cost of such capital improvements, an additional development fee should be considered by the City to underwrite the cost of these necessary replacements. A nexus study should be performed to determine the appropriate amount of money per dwelling unit (for residential construction) or per square foot (for commercial or industrial construction) that could be reasonably assessed to new development within the City for this purpose.

3.2.2 Storm Drainage Service

Existing System

Storm drainage service within the City of Redondo Beach is provided through a cooperative multi-jurisdictional system with different facilities, some of which are operated and maintained by the City of Redondo Beach Public Works Department, and some of which are maintained by the County of Los Angeles Department of Public Works Flood Control District.

In general, the storm drainage pattern of the city includes a network of storm drainage catch basins at street level and pipes under streets that collect and carry storm and excess water from the city in three general patterns (Figure 20):

- (1) Storm water that is collected and drained from the north and northeast portions of North Redondo Beach is carried out of the city through the city and county pipe system and drains into the major regional drainage facility of Dominguez Channel to the east;
- (2) Storm water that is collected and drained from the southern portion of North Redondo Beach and all of South Redondo Beach is carried and drained into the Pacific Ocean through one of the thirteen different drainage outfalls that are located along the southwestern shoreline of the city; and
- (3) Water that is collected in one of the five different sumps or sump pumps located throughout the city that is force-pumped back into and through the system and drained through one of the ocean drainage outfall pipes.

The existing storm drainage system serving the City of Redondo Beach includes a total of approximately 29.1 miles of gravity flow storm drain and 0.3 miles of forced flow storm drain. These drains are located sporadically throughout the city, with approximately one-third of the entire city's streets served and underlain by storm

TABLE 46

**List of Most Critical
Recommended Local Sanitary
Sewer System Improvements**

	<u>Sewer Line Location</u>	<u>Pipe Size</u>
1.	Alvord Lane by High Lane	12"
2.	Rindge Lane by 190th Street	8"
3.	Inglewood Avenue by 183rd/184th Street*	12"
4.	184th Street by Ramona Avenue	n/a
5.	Ives Lane by Lilienthal Lane	10"
6.	Carlson Lane by Goodman Avenue	8"
7.	Doolittle Drive by Manhattan Beach Boulevard*	18"
8.	Vail Avenue by Timothy Avenue*	15"
9.	Broadway by Diamond Street	15"
10.	Doris Way by Massena Avenue	8"
11.	Catalina Avenue by Avenue Del Norte*	18"
12.	Catalina Avenue between Torrance Boulevard/Pearl Street	8"
13.	Broadway and Vincent Street	15"
14.	Francisca Avenue by Beryl Street	15"
15.	Inglewood Avenue and Manhattan Beach Boulevard	8"

Source: Preliminary Sewer Master Plan, City of Redondo Beach. January, 1990,
Prepared by Donald G. Rosenberg & Associates, Inc.

* Indicates County trunk line.

Pacific Ocean

CITY OF
HERMOSA BEACH


CITY OF
MANHATTAN BEACH

CITY OF TORRANCE

LEGEND

 MAJOR COUNTY STORM DRAIN OUTLET

 OCEAN DRAINAGE OUTFALL PIPES/FACILITIES

 SUMP / SUMP PUMP FACILITIES

MAJOR COUNTY STORM
DRAIN OUTLET TO
DOMINGUEZ CHANNEL

0 Feet 1,500' 3,000' 4,500'

envicom CORPORATION

EXISTING LOCAL STORM DRAINAGE / NETWORK CHARACTERISTICS

FIGURE
20

drains. The pipes range in diameter from 18 inches to 96 inches, depending on location and anticipated maximum flow.

The majority of the storm drains are located in North Redondo Beach; the elevated topography of portions of South Redondo Beach is such that the eastern half of that area of the city has better natural drainage, and is not as intensely served by storm drainage infrastructure.

Approximately 25 percent of the storm drainage system is owned, operated, and maintained by the City of Redondo Beach Public Works Department; the remaining 75 percent of the system is owned, operated, and maintained by the Los Angeles County Department of Public Works Flood Control District.

In addition to the pipes and drainage system, there are three city-operated sumps and pump stations and two city-operated independent sump pumps that collect excess and storm water into sumps. This excess water is then pumped up into gravity flow drains which carry the water out to the Pacific Ocean through one or more of the aforementioned drainage outfalls. The locations of these sumps and sump pumps include (Figure 20):

- (1) A sump and sump pump located in the eastern center of North Redondo Beach within the Mathews Parkette at the northwest corner of the intersection of Green Lane and Mathews Lane;
- (2) A large sump and sump pump (the Wylie-Steinlart sump) located in the southeastern portion of North Redondo Beach, roughly bounded by Artesia Boulevard (the City of Manhattan Beach boundary) to the north, Ford Avenue to the east, and Goodman Avenue to the west;
- (3) A large sump and sump pump located in the far southeastern portion of South Redondo Beach within the Massena Parkette, roughly bounded by Massena Avenue to the west, Avenue "H" to the north, and the City of Torrance boundary to the east;
- (4) An independent sump pump located in the center of South Redondo Beach, within the low-lying area of the Redondo Union High School athletic fields, roughly bounded by Vincent Street to the south, Prospect Avenue to the east, and Del Amo Street to the north; and
- (5) An independent sump pump located in the far southeastern portion of South Redondo Beach at the base of South Irena Avenue directly abutting the City of Torrance boundary to the east.

In addition to the inland storm drainage system, the harbor and harbor basin area of the City (located in the northwestern area of South Redondo Beach and including the various marinas located in the City) are protected from coastal flooding and

damage related to storm-generated flooding by a large rock/stone material rip-rap breakwater wall.

The breakwater extends out like a large arm extending out to the west due south of the terminus of Herondo Street, and curving to the south approximately 3,000 linear feet (over one half of a mile), serving as a protective wall between the open and exposed portions of Santa Monica Bay and the Pacific Ocean and the structures, areas, and boats located in the northern coastal area of the City.

In the 1930's a small breakwater facility was installed to protect the harbor area from flooding and storm-related damage. In the mid 1950's the existing large breakwater facility (at a height of 14 feet above the mean low water level) was constructed; in 1963 portions of the facility were elevated to a height of 20 feet above the mean low water level. There is also a project currently underway between the City of Redondo Beach and the United States Army Corps of Engineers to elevate the height level of the remainder of the existing breakwater to 20 feet above the mean low water level, to extend the southern portion of the breakwater approximately 150 linear feet, and to raise the southern portion of the breakwater to a height of 16 feet above the mean low water level. These improvements will further enhance the ability of the breakwater to protect the harbor area from flooding and storm-related damage.

Prior to any of this protection, significant damage had occurred to a number of major structures and areas of the harbor. Even recently (within the last five years), particularly violent weather systems have caused storm-related damage to the Portofino Inn and the Municipal Pier structures.

The roadways and structures along Harbor Drive and the Esplanade, located due east of the public beach area extending almost the entire length of South Redondo Beach, are also protected from coastal-related damage and flooding. These areas are elevated approximately eight feet above the level of the beach area, and are further protected by a concrete block retaining wall running along the length of the Esplanade.

System Status/Planned Improvements

Overall, the city's storm drainage system is in good physical and operational condition. One major issue that has arisen, due to the lack of storm drainage facility coverage throughout the entire city, is the continued incidence of long standing "nuisance" or excess water generated by common day-to-day domestic activities [i.e., washing of vehicles, irrigation of lawns or planting areas, etc.]. Because of the lack of drainage facilities in some areas of the city, this water remains and pools in curbside gutters for long periods of time until it evaporates naturally, and thus, can become a moderate public safety and health hazard.

The City of Redondo Beach Department of Public Works is presently making incremental improvements to the system with monies budgeted from the city's General Fund to improve this situation.

In addition, the Los Angeles County Department of Public Works Flood Control Division has three storm drainage improvement projects currently in differing planning or study stages that will impact the City of Redondo Beach. These capital improvements would be funded by future Los Angeles County bond financing projects. These include (Figure 21):

- (1) The Vincent Street Drain Project: this project will add a new gravity-forced drainage line that will serve to drain the sump and pump station within the Redondo Union High School athletic fields, will drain and run west, serving Vincent Street to Broadway; will drain and run north, serving Broadway from Vincent Street to Beryl Street; will drain and run west, serving Beryl Street to Harbor Drive; and will drain and run south just west of Harbor Drive, joining and draining through an existing outfall pipe into the Pacific Ocean off of Mole D in the harbor/pier area.

This new drain will serve to supplement the existing drain running from the athletic field sump down Diamond Street and along Broadway, Beryl Street, and Harbor Drive to the same ocean outfall.

- (2) The Knob Hill Coast Drain Project: this project will add a new gravity-forced drain running and draining north to south along Pacific Coast Highway from Avenue "A" to Avenue "G," running and draining west along Avenue "G" to the Esplanade, running and draining north along the Esplanade, and connecting and draining through the existing outfall pipe into the Pacific Ocean parallel to Avenue "F."

This drain will serve to supplement the system in the southern end of the city adjacent to Pacific Coast Highway which are currently underserved by storm drainage and subject to sporadic flooding and extensive standing "nuisance" water.

- (3) The Doris Coast Pump Station Project: this project will add improvements on the City of Torrance side of the Avenue "H" sump pump, but will also include improvements on the Redondo Beach side of the system. These improvements will include the construction of a gravity-forced storm drain (with catch basins) running from and serving the Avenue "H" sump pump, running and draining west along Avenue "G" and connecting into the future Knob Hill Coast Drain at the intersection of Avenue "G" and Pacific Coast Highway.

Pacific Ocean





CITY OF
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CITY OF LAWDALE

LEGEND

-  DORIS COAST PUMP STATION DRAIN PROJECT
-  VINCENT STREET DRAIN PROJECT
-  HARBOR BREAKWATER ELEVATION PROJECT
-  KNOB COAST DRAIN PROJECT



PROPOSED LOCAL STORM DRAINAGE / FLOOD CONTROL IMPROVEMENTS

FIGURE
21

This drain will enhance drainage from and disposal of water from the Avenue "H" sump pump, and will also serve to supplement the system in the residential areas of the southern end of the city adjacent to Pacific Coast Highway.

These area are currently underserved by storm drainage, and are subject to sporadic flooding and extensive standing "nuisance" water.

As previously mentioned, there is also a project currently underway between the City of Redondo Beach and the United States Army Corps of Engineers to elevate the height level of the remainder of the existing breakwater to 20 feet above the mean low water level, to extend the southern portion of the breakwater approximately 150 linear feet, and to raise the southern portion of the breakwater to a height of 16 feet above the mean low water level. These improvements will further enhance the ability of the breakwater to protect the harbor area from flooding and storm-related damage.

3.2.3 Water Service

The City of Redondo Beach receives its water service from the California Water Service Company (CWSC), an investor-owned public utility whose operations are regulated by the State of California Public Utilities Commission (PUC). The California Water Service Company has been providing water service to the community since 1927.

For operational and maintenance purposes, the City of Redondo Beach is classified within the Hermosa-Redondo District, an area containing all of the City of Hermosa Beach, all of the City of Redondo Beach, and an 800-acre portion of the City of Torrance located directly south and southwest of the City of Redondo Beach.

Existing Conditions and Facilities

The Hermosa-Redondo District contains a total of 209 miles (1.1 million linear feet) of water main supplying and distributing all of the water to the district. The City of Redondo Beach contains 136.8 miles of water main (65 percent of all the district's mains); the City of Torrance contains 28.6 miles of water mains (14 percent of the district's mains), and the City of Hermosa Beach contains 43.6 miles of water main (21 percent of all the district's mains). Unfortunately, all usage data compiled for the water service district are compiled for the area as a whole, and cannot be broken down into figures for the individual cities.

All water supplied to and used in the City of Redondo Beach comes from one of two sources:

- (1) Water purchased by the California Water Service Company from the larger, regional Metropolitan Water District. This water is pumped into the city

through four Metropolitan Water District connector lines, two that are located in the far north end of North Redondo Beach (one near the intersection of Inglewood Boulevard and Manhattan Beach Boulevard and one near the intersection of Freeman Boulevard and Manhattan Beach Boulevard and two that are located outside of the City of Redondo Beach but are connected through mains into the city (one near the intersection of Redondo Street and Manhattan Beach Boulevard in the City of Manhattan Beach and one near the intersection of 242nd Street and Walnut Street in the City of Torrance) (Figure 22); and

- (2) Water pumped up from local groundwater sources by the California Water Service Company through a series of three wells located in the far north end of North Redondo Beach (one near the intersection of Felton Lane and Vanderbilt Lane, one near the intersection of Felton Lane and Graham Avenue, and one near the intersection of Blaisdell Avenue and Inglewood Avenue (Figure 22).

Approximately 85 percent of the water supplied to and used in the City of Redondo Beach is purchased from the Metropolitan Water District, while approximately 15 percent is pumped up from groundwater sources through wells in the city.

Existing water facilities within the City of Redondo Beach also include:

- The 136.8 miles of California Water Service Company water mains serving the city. The water mains are located running below virtually every street in the city, branching off into connections to distribute water to residences and businesses. The diameters and materials of the mains running under the streets range from the 2-inch, to 4-inch, to 6-inch, or 8-inch cast iron and asbestos lined concrete pipes; larger 10-inch or 16-inch cast iron and asbestos lined concrete mains which connect into the storage reservoirs or Metropolitan Water District supply lines located within the city. Pressure rates in the mains range from approximately 40 pounds per square inch (psi) to 120 pounds per square inch (psi).
- A series of three California Water Service Company reservoirs (containing a total of seven storage tanks). The total storage capacity of these tanks at any one time is 14.5 million gallons of water. The specific geographic locations of these reservoir facilities include (Figure 22):
 - Reservoir #1: located due south of the intersection of Pearl Street and Lucia Avenue in the center of South Redondo Beach. This reservoir contains four storage tanks with capacities of 1.0 million gallons, 1.5 million gallons, 1.5 million gallons, and 2.0 million gallons respectively, for a total storage capacity of 6.0 million gallons;

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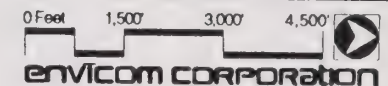
CALIFORNIA WATER SERVICE COMPANY RESERVOIR / STORAGE FACILITY



GROUNDWATER WELLS



METROPOLITAN WATER DISTRICT CONNECTOR LINES



EXISTING LOCAL WATER SERVICE AND STORAGE FACILITIES

FIGURE
22

- Reservoir #3: located due west of the intersection of Prospect Avenue and Agate Street in the far northeast end of South Redondo Beach. This reservoir contains one storage tank with a capacity of 1.5 million gallons; and
- Reservoir #10: located due east of the intersection of Carnegie Lane and Aviation Boulevard in the eastern center of North Redondo Beach. This reservoir contains two storage tanks with capacities of 3.5 million gallons and 3.5 million gallons respectively, for a total storage capacity of 7.0 million gallons.
- There are also two California Water Service Company reservoirs, Reservoir #6 and Reservoir #9, that are technically located within the City of Hermosa Beach (due east of the intersection of Harper Avenue and Ormond Lane) but serve the City of Redondo Beach. This reservoir contains five storage tanks with a total storage capacity of 6.0 million gallons.
- A series of 11 pump stations scattered throughout the City of Redondo Beach (five in North Redondo Beach and six in South Redondo Beach) that pump the water through the distribution system and keep the water pressure at correct rates (Figure 22).

Service Status/Planned System Improvements

The California Water Service Company reports that it is presently meeting all of the districts existing water service needs. Although the vast majority of the systems pipes are in better than average conditions (even some of the older cast iron pipes that are more than 60 years old), the company is currently carrying out a program to replace its 2-inch and 4-inch mains with standard 6-inch main.

In addition, the California Water Service Company is replacing 2,610 feet of 6-inch main on Curtis Street and Herrin Street and 1,040 feet of 6-inch main on Hill Street. The cost of these improvements is absorbed by being billed back to the customers incrementally through their monthly utility bill.

3.2.4 Electricity Service

Electric service to the City of Redondo Beach is provided exclusively by the Southern California Edison Company (SCE). For operational and maintenance purposes, the City of Redondo Beach is encompassed within Edison's Southern Region, which includes the South Bay/South County area bounded by Inglewood on the north, Long Beach on the south, and the 605 freeway on the east.

Existing Facilities

The primary existing Southern California Edison Company facility located within the City of Redondo Beach is the main regional power generation plant located on a

41-acre parcel in South Redondo Beach, roughly bounded by Harbor Drive to the west, Herondo Street to the north, the abandoned railroad right-of-way due west of Francisca Avenue and North Catalina Avenue to the east, and Beryl Street to the south (Figure 23). The plant is currently operating at approximately 30 percent capacity, with only four of the eight generators "on-line."

Southern California Edison also operates four neighborhood high-voltage substations in the city. Victoria Substation (Blossom Lane and 190th Street) and Ditmar Substation (Vanderbilt Lane and Flagler Lane), serve north Redondo Beach. Redondo Substation (Pacific Coast Highway and Beryl Street) and Topaz Substation (Knob Hill Avenue and Prospect Avenue) serve south Redondo Beach (Figure 23).

The vast majority of electrical infrastructure within the city is distributed through wires running along above-ground wooden poles. This distribution system originates from neighborhood substations which receive power from larger transmission substations located outside of the city. The transmission substations are supplied power in-part by transmission lines on above-ground metal "towers" located within turfed rights-of-way. The Edison transmission corridors in north Redondo Beach contain metal towers carrying electricity generated at the El Segundo Generating Station and also electricity transmitted from Edison's La Fresa Substation in Torrance. The towers on the right-of-way generally paralleling Herondo/190th Streets transmit electricity generated at the Redondo Generating Stations (Figure 23).

Planned Improvements

Recently, the city has engaged in the process of securing funding and working with the Southern California Edison Company to remove the unsightly above-ground service poles and wires and locate them below-ground. The first priority of the project was to remove the above ground utilities along the Artesia Boulevard commercial corridor, which was completed in 1991. As additional funds for this purpose become available, the City of Redondo Beach Public Works Department and Southern California Edison Company will prioritize and undertake similar projects in other areas of the city.

The City of Redondo Beach Public Works Department is now requiring that new commercial and multi-family residential projects built in the city provide underground electrical utility service to their sites. This incremental process will, over time, significantly increase the amount of the city served by underground utilities and relieved of the visual blight of above ground poles and wires.

3.2.5 Natural Gas Service

Natural gas service to the City of Redondo Beach is provided exclusively by the Southern California Gas Company. For operational, maintenance, and planning purposes, the City of Redondo Beach is classified within the South Coastal Division.

Pacific Ocean

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CITY OF LAWDALE

LEGEND

- 1** SOUTHERN CALIFORNIA EDISON COMPANY POWER PLANT
- 2** SOUTHERN CALIFORNIA EDISON COMPANY TRANSMISSION CORRIDORS
- 3** SOUTHERN CALIFORNIA EDISON COMPANY LOCAL SUBSTATIONS



EXISTING LOCAL ELECTRICITY SERVICE AND TRANSMISSION FACILITIES

FIGURE
23

This Division includes all communities west of the Harbor (110) Freeway from San Pedro north to the Ventura County line. The city is further classified into the 182nd Street Division, whose jurisdiction includes all of the City of Redondo Beach and the City of Torrance.

Existing Facilities

The vast majority of natural gas infrastructure and facilities within the City of Redondo Beach are the series and networks of underground pipelines that distribute the gas to the various residential, commercial, and industrial land uses throughout the area. These pipelines run up and down below virtually every street in the city, with diameters ranging from 12-inch trunk lines running down major streets to 4-inch supply lines running down smaller streets and serving residential neighborhoods.

System Status/Planned Improvements

At this time, the Southern California Gas Company reports that the infrastructure and supply system serving natural gas to the City of Redondo Beach is in good working order and has the capability to serve the city's future needs relative to natural gas supply and capacity. For these reasons, no major improvements or upgrades, above those normally scheduled under the gas company's ongoing plan for the replacement of older infrastructure are presently scheduled for the system.

3.2.6 Telecommunications Services

As with most urbanized areas, the City of Redondo Beach is fully served by modern telecommunications services. Telecommunications services available within the City of Redondo Beach fall into two general categories: 1) telephone service; and 2) cable television service.

Telephone Service

As a result of legislation and actions including the federal deregulation of telephone services and the mandated "break-up" of the Bell Telephone Company, telephone service and equipment in the City of Redondo Beach are available through a number of different providers.

Overall, the licensing and regulation of the different providers and overseer of these services is the State of California Public Utilities Commission (PUC). The dominant public (coin-operated) and private telephone provider in the City of Redondo Beach area is the General Telephone and Electric Company (GTE).

Basic hookups to residences and local telephone service in the city are provided through General Telephone and Electric Company (GTE). Individual users of the telephones then have a myriad of selections available to them regarding their actual choice of service options and long distance telephone service providers.

Businesses who desire public (coin-operated) telephone service in or around their establishments arrange for the infrastructure (telephone and booth or station) and service hook-up and pay a one-time installation fee (approximately \$150.00) and monthly charge (approximately \$35.00) to the provider.

Cellular (or mobile) telephone service is also available throughout the City, provided to individual users by a number of service companies licensed and monitored by the State of California Public Utilities Commission (PUC). The City has little or no control over the provision of cellular telephone service, other than oversight and approval authority over the siting and operation of any cellular transmission antennas proposed to be located within the City limits. The siting and design of these facilities are subject to the City's conditional use permit review and approval process.

Cable Television Service

Cable television service within the City of Redondo Beach is provided exclusively by the Century Cable Company, a national privately-owned cable television franchise corporation. Century Cable Company has been providing cable television service to the City of Redondo Beach since 1973, with local offices located at 2925 West 182nd Street in Redondo Beach.

Century Cable Company currently serves approximately 14,930 subscribers (including residential household, businesses, and restaurant/bar establishments) city-wide, offering a 34 channel menu, with one locally-originating community channel (i.e., broadcasting local government and public interest programming and notices).

The company estimates that it has approximately 110 linear miles of cable wiring distributed across the city; approximately 85 percent of the service is wired above-ground along telephone poles, while approximately 15 percent of the services are wired below ground.

Century Cable Company's fixed franchise agreement term with the city has recently expired; the company is now working and operating under a six month interim contract until such time as the new longer-term franchise is awarded.

3.2.7 Groundwater (Seawater) Intrusion Barrier

Because of its low-lying coastal setting directly adjacent to Santa Monica Bay and the Pacific Ocean, the southern half of the city experiences two geologic-related

conditions that do not occur in the northern half of the city and do not occur in most cities. These conditions include:

- (1) Being underlain by groundwater aquifers that are a valuable source of local and regional domestic water; and
- (2) Having the potential of nearby saltwater sources (Santa Monica Bay and the Pacific Ocean) intruding into (i.e., seeping underground) and contaminating the local groundwater sources.

In order to prevent this occurrence and protect the condition of these local groundwater sources, the Los Angeles County Sanitation Districts Flood Control Division installed and maintains a saltwater intrusion barrier (crossing through the southern half of the City).

The intrusion barrier, formally known as the West Coast Basin Barrier Project, is a series of several hundred freshwater injection wells, running north to south for approximately eight miles down the coast from a point just south of Los Angeles International Airport in El Segundo to the north to the northern tip of Palos Verdes to the south. The wells follow North Prospect Avenue in the City of Hermosa Beach and Prospect Street in the City of Redondo Beach. The majority of the barrier wells were installed in the mid 1960's and were built entirely through bonds issued by the Los Angeles County Sanitation Districts.

The freshwater is pumped into the ground through the wells, forms a barrier (or wall) of high-pressure freshwater that seals out any seawater which may attempt to seep and intrude past the line of wells into the valuable local groundwater aquifers located to the east. Approximately 45 of the freshwater injection wells are currently located within the City of Redondo Beach. The depth of the wells drilled in the city differ, generally ranging from approximately 270 feet below sea level in the northern half of South Redondo Beach to approximately 830 feet below sea level in the southern half of South Redondo Beach. Additional freshwater injection wells are added over time, as necessary, to keep the pressure and levels of freshwater at sufficient levels to keep out the seawater.

3.2.8 Petroleum Extraction/Pipeline Operations

Although petroleum extraction has, in general, declined markedly over time in the South Bay and the City of Redondo Beach, a number of small oil wells still operate in the city and distribute petroleum within and outside the city through a series of underground pipelines.

At present, the three primary and highly visible petroleum extraction wells that remain active within the City of Redondo Beach include:

- (1) The Standard Pacific Oil facility, located in the northwestern portion of South Redondo Beach, roughly bounded by North Gertruda Avenue to the north, North Francisca Avenue to the west and south, and North Catalina Avenue to the east.
- (2) The Petro-Lewis Oil facility, located in the southeastern portion of South Redondo Beach (within Alta Vista Park), roughly bounded by Julia Avenue to the east, Camino Real to the north, South Juanita Avenue to the west, and Serpentine Street to the south. This facility has an underground pipeline that runs east up Camino Real and then runs north under Prospect Street, eventually tying into the major Southern California Edison petroleum pipeline running adjacent to Anita Street; and
- (3) The Titan Oil facility, located in the northwestern portion of South Redondo Beach (within the Harbor/Pier complex), at the northwestern intersection of Harbor Drive and Portofino Way. This facility is approximately one-half of one acre in size, and is in the process of having all of its wells removed/capped and its operations closed.

In addition to these extraction facilities, a significant number of underground petroleum distribution pipelines, owned and/or operated by the various existing petroleum production and distribution companies serving other areas of the region run throughout the City.

As previously mentioned, the Southern California Edison Company also runs underground petroleum pipelines that supply fuel to the existing electricity generation plant in South Redondo Beach. These pipelines are primarily located within and under the existing turfed Southern California Edison rights-of-way that include the elevated high-tension electricity transmission wires and support standards.

Future Improvements

Although these facilities, overall, have operated and continue to operate safely and "trouble-free" their long-term monitoring and maintenance (relative to pressure levels, leaks, etc.) continues to be a relevant concern. The significant numbers and length of pipelines running throughout different areas of the city (a number of them within residential neighborhoods), their age, and their operation by a host of different and independent private companies and entities all contribute to raise questions about the means through which these pipelines are operated and maintained.

Two means of improving the situation have been suggested by the City of Redondo Beach Public Works Department (the first task has already been initiated by the department):

- (1) Developing and maintaining an accurate and updated catalogue and inventory of the locations, details (dimensions, materials, etc.), owner/operator, and contents of each well and pipeline running within the city.
- (2) Adopting an ordinance which would require a formal inspection and monitoring of all petroleum extraction and transportation facilities in the City.

Implementation of these two suggestions would be expected to significantly decrease the existing safety hazards associated with the present "laissez-faire" monitoring and oversight of these wells and pipelines.

3.2.9 Goals, Objectives, and Policies

The following lists the goals, objectives, and policies for each of the fundamental utility services provided and available within the City of Redondo Beach. The overall intent of these goals, objectives, and policies is to 1) maintain and/or improve the level and quality of utility services provided to existing and future residents, business people, and visitors to the community, and 2) ensure that the construction and operation of new or upgraded utility services keep pace with the amount of additional development that is projected to occur in the city over the life span of the updated General Plan (to year 2010).

Issue SANITARY SEWER SERVICE

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the Los Angeles County Sanitations Districts) to:*

6A Establish and maintain adequate planning, construction, maintenance, and funding for sanitary sewer collection and treatment facilities to support and serve the various land uses and intensities of development in the city and protect public health and safety; upgrading existing deficient systems, and expanding the system, where necessary. The services shall be provided and system operated in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the Los Angeles County Sanitations Districts) to:*

6.1 Provide a comprehensive and modern system of sanitary sewer collection and treatment facilities which will adequately collect, convey, and treat sewerage generated by existing and future development in the city. The services shall be provided and system operated in an ecologically-sensitive manner.

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the Los Angeles County Sanitations Districts) to:*

- 6.1.1 Improve and enhance cooperation and communication with the Los Angeles County Sanitations Districts officials to promote effective planning and ensure the most efficient operation and maintenance of the city's sanitary sewer collection and treatment system and facilities.
- 6.1.2 Provide for the adequate operation and maintenance of existing sanitary sewer collection and treatment facilities serving the city.
- 6.1.3 Provide for the improvement of sanitary sewer collection and treatment facilities (i.e., through replacement of old mains, construction of parallel lines, etc.) where existing systems are deficient.
- 6.1.4 Provide for the construction of upgraded and expanded sanitary sewer and treatment improvements to adequately support new and existing development throughout the city.
- 6.1.5 Require that the approval of new development in the city be contingent upon the ability of the project to be served with adequate sanitary sewer infrastructure and service.
- 6.1.6 Update and complete a comprehensive master plan for sanitary sewer system operation, maintenance, and improvements based on the Preliminary Sewer Master Plan, prepared for the city by Donald G. Rosenberg and Associates, Incorporated and implement all appropriate recommendations where feasible.
- 6.1.7 Pursue, through the Public Works Department, the creation and adoption of an ordinance that would establish a mandatory sewer impact fee (per unit or per square foot) for new development projects (above and beyond the existing sewer connection fees presently charged by the city and the county) to finance the capital improvements within the sanitary sewer system that have been or will be identified as necessary in the future to support such additional development.
- 6.1.8 Review and modify local sewer connection fees and monthly service charges, as necessary, to ensure that adequate amounts of fees and charges are collected to fund the operation and maintenance of existing sanitary sewer collection and treatment facilities.
- 6.1.9 Apply collected sewer impacts fees, sewer connection fees, and monthly service charges associated with sanitary sewer collection and treatment services towards the operation, maintenance, repair, and replacement of existing sanitary sewer facilities and construction of new facilities.

- 6.1.10 Examine the feasibility and potential for the use of reclaimed water for irrigation and cleaning purposes, in both public and private facilities.
- 6.1.11 Wherever applicable and feasible, the City of Redondo Beach shall require that major water users in the community install systems for the collection of and use of reclaimed water as an irrigation and cleaning source.

Issue **STORM DRAINAGE SERVICE**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6B Establish and maintain adequate planning, construction, maintenance, and funding for storm drainage facilities to support and serve the various land uses and intensities of development in the city and protect public health and safety; upgrading existing deficient systems and expanding the system, where necessary. The services shall be provided and system operated in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6.2 Ensure the provision of a comprehensive and modern system of storm drainage facilities that will adequately collect, convey, and remove/dispose of the quantities of storm water and excess water that are generated in the city. The services shall be provided and system operated in an ecologically-sensitive manner.

Policies *It shall be the policy of the City of Redondo Beach (in association with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6.2.1 Ensure the provision and operation of adequate storm drainage facilities, where necessary, throughout the city.
- 6.2.2 Provide for the maintenance and repair of existing storm drainage facilities, wherever located, throughout the city.
- 6.2.3 Require that the approval of new development in the city be contingent upon the ability of the project to be served with adequate storm drainage infrastructure and service.

- 6.2.4 Improve and enhance cooperation and communication with the Los Angeles County Department of Public Works Flood Control Division officials to promote effective planning and ensure the most efficient operation and maintenance of the city's storm drainage collection and removal/disposal system and facilities.
- 6.2.5 Plan and provide for the ongoing construction of upgraded and expanded storm drainage facilities in areas currently underserved by such facilities in the city, focussing on areas currently encumbered by high incidences of long standing "nuisance" or excess water generated by day to day domestic activities (i.e., washing of vehicles, irrigation of lawns or planting areas, etc.), to protect existing and new development.
- 6.2.6 Pursue, through the City Public Works Department additional or alternative mechanisms (other than the City General Fund) for the funding of future storm drainage system improvements.
- 6.2.7 Require that improvements to or expansion of existing storm drainage facilities necessitated by specific new development projects be borne by the project proponent, either through the payment of impact fees or the actual construction of such improvements.
- 6.2.8 Allow for the formation of benefit assessment districts and community facilities districts, where appropriate and feasible, in which those who directly benefit from specific local storm drainage improvements pay a pro rata share of the costs of the improvements.
- 6.2.9 Examine the feasibility of an improved filtering or purification system to treat collected storm water prior to its discharge into Santa Monica Bay and the Pacific Ocean at the various drainage outfall points.
- 6.2.10 Ensure an adequate and thorough notification of the resident population of the community that will be affected by planned storm drainage improvements or repairs prior to the actual action being taken.
- 6.2.11 Encourage the City of Redondo Beach and Los Angeles County Department of Public Works Flood Control Division to install additional shields, barriers, or other design improvements to improve the aesthetics and visual appearance of the various ocean storm drainage outfalls along the shoreline that are open to public view.
- 6.2.12 Where appropriate and feasible, upgrade the existing drainage system by replacing open swales and drainage channels with covered or underground facilities.

6.2.13 Evaluate the potential feasibility of collecting and using reclaimed excess storm water for irrigation and other non-potable uses, and implement such uses where possible.

6.2.14 Provide additional information and education to the public relative to the proper or improper disposal of debris or materials into the storm drainage system (i.e., household materials, toxics, etc.).

Issue **WATER SERVICE**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the California Water Service Company, or any future purveyor of water to the city) to:*

6C Ensure adequate planning, maintenance, and operation of a modern, safe, and effective system of supply, distribution, transmission, and storage of water to meet the needs of the community; encouraging the upgrading of existing deficient systems and expansion, where necessary, in the city. The services shall be provided and system operated in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the California Water Service Company, or any future purveyor of water to the city) to:*

6.3 Provide a modern and efficient system of transmission, distribution, and storage of water supplies to the city capable of meeting the normal daily and peak hour demands of the community, including adequate fire flow requirements, to meet existing and future water demand in a timely and cost effective manner

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the California Water Service Company, or any future purveyor of water to the city) to:*

6.3.1 Ensure the provision of adequate water supply, transmission, distribution, and storage, throughout the city to serve the community's residential, industrial, commercial, and recreational needs.

6.3.2 Ensure the provision and construction of upgraded and expanded water supply, transmission, distribution, and storage facilities throughout the city to support existing and future development.

6.3.3 Ensure the maintenance and replacement of existing water supply, transmission, distribution, and storage facilities, as necessary to adequately serve the city's water needs.

- 6.3.4 Require that the approval of new development in the city be contingent upon the ability of the project to be served with adequate water infrastructure and service.
- 6.3.5 Improve and enhance cooperation and communication with the California Water Service Company, the West Basin Municipal Water District, and Metropolitan Water District officials (or any future purveyors of water to the city) to promote effective planning and ensure the most efficient operation and maintenance of the city's water supply, transmission, distribution, and storage system and facilities.
- 6.3.6 Work, through the City Public Works Department, with the California Water Service Company, the West Basin Municipal Water District, and Metropolitan Water District (or any future purveyors of water to the city) in developing and implementing a menu of programs for public information/education and action in encouraging (or enforcing the potential mandating) of water conservation practices relevant to the periodic drought conditions faced by the area and the region.
- 6.3.7 Ensure that the costs of specific improvements to the existing water supply, transmission, distribution, and storage facilities necessitated by a new development project be borne by the project proponent; either through the payment of impact fees, or by the actual construction of the necessary physical improvements.
- 6.3.8 Examine the feasibility and potential for the realization of alternative means of water resources and production for use in the community, (including seawater desalinization).
- 6.3.9 Ensure the continued monitoring and maintenance of water quality in the community's supply of potable water, to protect the public health and welfare.
- 6.3.10 Ensure the prudent use of local water resources by the City of Redondo Beach municipal government by continuing to install and maintain drought-tolerant landscaping and adequate and operationally efficient irrigation systems in its parks, parkways, and median strips.
- 6.3.11 Encourage the use of reclaimed water for landscape, grading, industrial, and other State and County health approved purposes as service is provided in the City by the West Basin Municipal Water District.
- 6.3.12 Require that development projects of sufficient scale to make it economically feasible incorporate dual pipe systems for the use of reclaimed water for irrigation and other State and County health

approved purposes where these uses are accessible to trunkline distribution service.

6.3.13 Work with the City's water providers to encourage local residents, businesses, and industries to store and re-use gray water.

6.3.14 Require that large scale development projects evaluate the feasibility of and where feasible incorporate gray water re-capture, storage, and distribution systems.

Issue **ELECTRICITY SERVICE**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the Southern California Edison Company or any future purveyor of electricity to the city) to:*

6D Provide an adequate, safe, and orderly supply of electrical energy to support the various existing and future land uses and development intensities in the city. The services shall be provided and system operated in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the Southern California Edison Company or any future purveyor of electricity to the city) to:*

6.4 Work actively with the Southern California Edison Company (or any future purveyor of electricity to city) to ensure that adequate electrical facilities and capacities are available to meet the average daily and peak electrical energy needs of existing and future development in the city.

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the Southern California Edison Company or any future purveyor of electricity to the city) to:*

6.4.1 Improve and enhance cooperation and communication with the Southern California Edison Company (or any future purveyor of electricity to the city) to promote effective planning and ensure the most efficient and environmentally sensitive operation and maintenance of the city's electricity supply system and facilities.

6.4.2 Require that the approval of new development in the city be contingent upon the ability of the project to be served with adequate electrical infrastructure and service.

6.4.3 Promote and require the undergrounding of electrical utilities, including on-site electrical utility infrastructure and connections

within a new development project, unless such undergrounding is judged as being infeasible.

- 6.4.4 Continue, through the City Public Works Department, to pursue potential funding mechanisms (outside of the city's General Fund) to undertake and carry out a more general program to incrementally underground, where possible, all of the existing overhead electrical utility infrastructure, cable television lines, and overhead telephone lines in the city.
- 6.4.5 Ensure the provision of adequate illumination of all public streets, alleys (under special conditions) and public areas; upgrading areas which are deficient and maintaining light fixtures in good working order.
- 6.4.6 Require that improvements to or expansion to the existing city street lighting system and or new street light systems necessitated by new private development be borne by the project proponent; either through the payment of fees, or through the actual construction of the facilities.
- 6.4.7 Work, through the City Public Works Department, with the Southern California Edison Company (or any future purveyor of electricity to the city) in developing and implementing a menu of programs for public information/education and action in encouraging electricity conservation practices.
- 6.4.8 Work with the Southern California Edison Company to ensure that their facilities and operations are provided in a manner that is compatible with adjacent and surrounding uses in the community. Continue to pursue and implement, where feasible, a program of mitigation measures to lessen the severity and occurrence of the impacts of these facilities relative to noise, air quality, etc.
- 6.4.9 Work, through the City Public Works Department to monitor the evolving issue of Electromagnetic Radiation Frequencies [EMF] (from electrical operations and facilities) and their potential impacts on the community. As information and mitigation measures for these impacts becomes available, they should be analyzed and implemented, as possible and feasible, through the community.

Issue **NATURAL GAS SERVICE**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the Southern California Gas Company or any future purveyor of natural gas to the city) to:*

6E Provide an adequate, safe, and orderly supply of natural gas to support the various existing and future land uses and development intensities in the city. The services shall be provided and system operated in an ecologically-sensitive manner.

Objective It shall be the objective of the City of Redondo Beach (in cooperation with the Southern California Gas Company or any future purveyor of natural gas to the city) to:

6.5 Work actively with the Southern California Gas Company (or any future purveyor of natural gas to the city) to ensure that adequate natural gas facilities and capacities are available to meet the average daily and peak natural gas energy needs of existing and future development in the city.

Policies It shall be the policy of the City of Redondo Beach (in cooperation with the Southern California Gas Company or any future purveyor of natural gas to the city) to:

6.5.1 Improve and enhance cooperation and communication with the Southern California Gas Company (or any future purveyor of natural gas to the city) to promote effective planning and ensure the most efficient and safe operation and maintenance of the city's natural gas supply system and facilities.

6.5.2 Require that the approval of new development in the city to be served by natural gas be contingent upon the ability of the project to be served with adequate natural gas infrastructure and service.

6.5.3 Require that all new development to be served by natural gas install on-site pipeline connections to distribution facilities underground, unless such undergrounding is judged to be infeasible.

6.5.4 Work with the Southern California Gas Company to develop a program for the future protection and conservation of natural gas resources, as supplies warrant into the future.

Issue TELECOMMUNICATIONS SERVICES

Goal It shall be the goal of the City of Redondo Beach (in cooperation with the General Telephone and Electric Company and Century Cable Company or any additional or future purveyors of telecommunications services to the city) to:

6F Ensure the availability, operation, and maintenance of an adequate, modern telecommunications system (i.e., telephone, facsimile, cellular

telephone, cable television, and satellite television/communication) to support the needs of existing and future land uses and development intensities in the city.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the General Telephone and Electric Company and Century Cable Company or any additional or future purveyor of telecommunications services to the city) to:*

6.6 Work to ensure that adequate, modern telecommunications systems and facilities (i.e., telephone, facsimile, cellular telephone, cable television, and satellite television/communication) are available to meet the needs of existing and new development in the city.

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the General Telephone and Electric Company and Century Cable Company or any additional or future purveyor of telecommunications services to the city) to:*

6.6.1 Provide for the continued development, expansion, and modernization of telecommunications systems (i.e., telephone, facsimile, cellular telephone, cable television, and satellite television/communication) [including fibre optics systems] as feasible, to ensure and enhance communication between residents, businesses, government agencies and other similar entities.

6.6.2 Improve and enhance cooperation and communication with the General Telephone and Electric Company and Century Cable Company (or any additional or future purveyor of telecommunications services to the city) to promote effective planning and ensure the most efficient operation and maintenance of the city's telecommunications system and facilities.

6.6.3 Pursue the expansion of coverage and availability of local cable television programming for government and community service meetings and events, public service notices and activities, and other non-profit or community-serving programs that may be of interest or value to the community.

6.6.4 Require that all new development to be served by telecommunications install on-site connections to distribution facilities underground, unless such undergrounding is judged to be infeasible.

6.6.5 Ensure, through the design review and approval process of the City Planning Commission and City of Redondo Beach Building and Safety Department, that satellite dishes and other highly visible

telecommunications devices are (preferably) placed and designed as such to be shielded from view, or (at the least) designed as such to be compatible with surrounding uses and design characteristics of the community.

- 6.6.6 Work with General Telephone (and any other purveyors of telephone service) to ensure that outdoor telephone facilities are located and designed so as to prevent adverse impacts on surrounding properties.

Issue **GROUNDWATER (SEAWATER) INTRUSION BARRIER**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6G Ensure the continued protection of groundwater sources and aquifers in the local area and region from contamination through saltwater intrusion from Santa Monica Bay and the Pacific Ocean. The protection system shall be operated and maintained in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6.7 Work to continue to protect local and regional groundwater sources and aquifers from contamination through saltwater intrusion from Santa Monica Bay and the Pacific Ocean.

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the Los Angeles County Department of Public Works Flood Control Division) to:*

- 6.7.1 Ensure the continued operation, maintenance, upkeep, and expansion (as necessary) of the existing West Coast Basin Barrier Project groundwater (seawater) intrusion barrier and water injection well system operating in the eastern portion of South Redondo Beach.

- 6.7.2 Improve and enhance cooperation and communication with the Los Angeles County Department of Public Works Flood Control Division officials to ensure that the city's groundwater (seawater) intrusion barrier and freshwater injection well system and facilities are effectively planned, operated, and maintained and that their construction and operation is undertaken in a manner that minimizes traffic disruptions and does not adversely impact adjacent land uses.

- 6.7.3 Ensure that any new development proposed in the area of the existing groundwater (saltwater) intrusion barrier and freshwater injection well facilities is reviewed to prevent potential impacts or damage to the system.

Issue **PETROLEUM PIPELINE FACILITIES**

Goal *It shall be the goal of the City of Redondo Beach (in cooperation with the various existing and future petroleum or utility companies in the city) to:*

- 6H Ensure the continued safe operation of petroleum extraction and transportation facilities throughout the city. The facilities and systems shall be operated in an ecologically-sensitive manner.

Objective *It shall be the objective of the City of Redondo Beach (in cooperation with the various existing and future petroleum or utility companies in the city) to:*

- 6.8 Work to ensure that all petroleum extraction and transportation facilities in the city are operated and maintained in the most safe and effective manner available using existing technology and industry practices.

Policies *It shall be the policy of the City of Redondo Beach (in cooperation with the various existing and future petroleum or utility companies in the city) to:*

- 6.8.1 Improve and enhance cooperation and communication with the various petroleum or utility companies operating in the city to promote effective planning and ensure the most efficient operation, maintenance, and monitoring of the city's petroleum extraction and transportation system and facilities.

- 6.8.2 Maintain, through the City of Redondo Beach Public Works Department, a comprehensive textual and graphic inventory of the operators, location, and function of all existing petroleum extraction and transportation operators in the city.

- 6.8.3 Require the inspection and monitoring of all petroleum extraction and transportation facilities in the city be carried out in a formal and organized manner, on at least an annual basis to ensure the continued safe operation of such facilities. The inspection and monitoring programs shall be reviewed and approved by the City of Redondo Beach Department of Public Works, and the programs shall be funded by the owners and/or operators of the various facilities.

- 6.8.4 Work, through the local design review and approval process implemented with the Conditional Use Permit process and building inspection/citation process, to ensure that all above-ground petroleum extraction and transportation facilities are designed, constructed, and maintained in an aesthetically-pleasing manner.

3.2.10 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Utilities Section of the General Plan. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

Sanitary Sewer, Storm Drainage, and Water Service

- Continue to provide and adequately maintain the City-owned and operated components of the local sanitary sewer and storm drainage infrastructure systems, while improving and placing additional emphasis on the fiscal and functional efficiency and environmental sensitivity of these systems (*Policy 6.1.2, 6.2.1, 6.2.2, 6.2.13*).
- City of Redondo Beach Department of Public Works staff shall continue to meet and communicate on a regular basis with Los Angeles County Sanitation Districts officials, Los Angeles County Department of Public Works Flood Control Division officials, and the California Water Service Company and Metropolitan Water District, regarding operation, maintenance, and improvement of the local sanitary sewer, storm drainage, and water infrastructure systems (*Policy 6.1.1, 6.2.1, 6.2.2, 6.2.4, 6.2.13, 6.3.1, 6.3.5, 6.3.9*).
- Prior to project approval and construction, and in accordance with local environmental and development review), ensure that adequate sanitary sewer, storm drainage, and water service can be provided to all new local development (*Policy 6.1.5, 6.2.3, 6.3.4*).
- Require, where project impacts necessitate and law allows, that the cost and construction of specific upgrading or improvement of local sanitary sewer, storm drainage, and water infrastructure systems be borne directly by project proponents, through payment of impact fees, participation in benefit assessment districts, and direct construction and eventual public dedication of such improvements (*Policy 6.1.7, 6.1.8, 6.2.3, 6.2.7, 6.3.2, 6.3.7*).
- Continue and expand, as necessary, existing City of Redondo Beach Department of Public Works capital improvement programs for the upgrade

of the local sanitary sewer, storm drainage, and water infrastructure systems where they are deficient, using public and/or private funds (*Policy 6.1.3, 6.1.4, 6.2.1, 6.2.3, 6.2.4, 6.2.5, 6.2.13, 6.3.2, 6.3.3*).

- Actively solicit funds for the improvement and maintenance of the City's sanitary sewer, storm drainage, and water infrastructure from state and federal agencies when such revenue is available and the costs cannot be assigned to development projects (*Policy 6.1.2, 6.1.3, 6.1.4, 6.2.5, 6.2.6*).
- City of Redondo Beach Department of Public Works staff shall formally monitor the activities of and continue to meet with officials of the Southern California Association of Governments (SCAG), the Regional Water Quality Control Board, adjacent municipalities, and other appropriate public agencies as they relate to sanitary sewer treatment capacity and planning, particularly regarding the possibility of the expansion of existing sewage treatment facilities or the construction of a new facility to accommodate expanded development and activity in the region (*Policy 6.1.1, 6.1.2, 6.1.3, 6.1.4*).
- Implement, where appropriate and feasible, the recommendations of an updated comprehensive master plan for sanitary sewer services and operation based on the Preliminary Sewer Master Plan, prepared for the City of Redondo Beach by Donald G. Rosenberg and Associates, Incorporated (*Policy 6.1.6*).
- Develop additional local ordinances setting impact fees and charges for the issuance of sewer and water connection permits, as necessary, as a method of controlling the rate of increase in sewer flows and water usage, and their impacts on the overall future capacity of the local sanitary sewer and storm drainage system (*Policy 6.1.5, 6.1.7, 6.1.9, 6.2.5, 6.2.7, 6.3.2, 6.3.7*).
- The City of Redondo Beach Department of Public Works shall periodically, monitor, reassess, and modify rates and charges for sanitary sewer connections and service. The established rates should reflect the costs of providing, maintaining, and improving local services, and should be allocated equitably to users according to demand and actual usage (*Policy 6.1.8, 6.1.9*).
- The City of Redondo Beach Department of Public Works staff and Community Development (Planning) Department staff, through monitoring and participating in the design review and construction process, shall cooperate with, encourage, and mandate (where possible) that public utilities design and site public improvements and facilities in an attractive manner, so that they are well integrated with and sensitive to existing and planned development (*Policy 6.1.1, 6.2.4, 6.2.13, 6.3.5*).
- Adopt a local ordinance which would require public and private development and major local water users to incorporate wastewater and

reclaimed storm water recycling systems within new buildings, for irrigation and other non-potable uses (*Policy 6.1.10, 6.1.11, 6.2.13*).

- Adopt an ordinance which requires that development projects evaluate the physical and financial feasibility of incorporating (a) dual pipe systems for the use of reclaimed water for irrigation and other State and County approved purposes and (b) gray water re-capture, storage, and distribution systems. Where such is determined to be feasible, the project shall be conditioned through the permitting process to require the inclusion of such systems. In the drafting of the ordinance, the City shall determine the appropriate use and size of development where such studies shall be mandated (*Policies 6.3.12, 6.3.14*).
- Work with the West Basin Municipal Water District to encourage that they provide information and appropriate incentives to residents, commercial businesses, and industrial uses for the use of reclaimed and re-use of gray water. Such may include the publication of educational brochures, media advertising, cable television broadcasts, pricing benefits, and/or other techniques (*Policies 6.3.11, 6.3.13*).
- City of Redondo Beach Department of Public Works Department staff, or a designated consultant, shall conduct an analysis of the operational and economic implications of constructing an improved filtering or purification system to treat collected storm water prior to its discharge into drainage outfall points. If determined to be fiscally and operationally feasible, the construction and operation of such a system shall be carried out (*Policy 6.2.9*).
- Provide, through newspaper advertisement and direct mailing notice to surrounding residents and businesses, adequate information to the public regarding planned storm drainage improvements or repairs prior to initiation of such projects (*Policy 6.2.10*).
- City of Redondo Beach Department of Public Works staff shall meet and work with the County Sanitation District to design and install appropriate improvements to improve the aesthetic and visual appearance of the various local ocean storm drainage outfalls (*Policy 6.2.11*).
- City of Redondo Beach Department of Public Works staff shall create, distribute and make available to the public, "brochure or pamphlet style" information to instruct local residents on the proper means and locations of disposing of household debris or toxins, to prevent further damage to the local storm drainage system and environment through improper disposal into the local storm drainage system (*Policy 6.2.14*).
- Participate and review regional studies, technical materials, and planning efforts and conduct local studies analyzing the feasibility, locations, and mechanisms leading to the potential realization and discovery of alternative

means of water resources and water production for use in the community (including seawater desalination) (*Policy 6.3.8*).

- Adopt specific local ordinances and regulations which will build upon ongoing regional efforts to promote and achieve additional water and wastewater conservation in the community, particularly in all new development (*Policy 6.3.6*).
- City of Redondo Beach Department of Public Works staff shall cooperate and work with officials of the California Water Service Company, to initiate and facilitate programs for water audits of existing development. These audits should define the current level of use and should also allow potential impacts to supplies and operations to be identified and mitigated (*Policy 6.3.6*).
- City of Redondo Beach Department of Public Works staff shall work with officials of the California Water Service Company, the West Basin Municipal Water District, and Metropolitan Water District to create additional written materials for public distribution and visual materials explaining the potential and existence of local and regional drought conditions and the need/methods for personal and local water conservation. This effort should include the videotaping of a session to be played on a periodic basis on the local government access cable television system, as overall program scheduling allows (*Policy 6.3.6*).
- City of Redondo Beach Department of Public Works staff shall, on a regular basis, continue to monitor local water quality conditions. When problems are identified and arise, Department staff shall work with California Water Service Company representatives to notify residents and property owners and effectively restore appropriate quality, in accordance with established State Department of Health and Safety requirements (*Policy 6.3.9*).
- As fiscal and operational/maintenance conditions allow, drought-tolerant landscaping and adequate and operationally-efficient irrigation systems shall be installed and maintained in and along all local parks, properties, parkways, and median strips (*Policy 6.3.10*).

Electricity, Natural Gas, and Telecommunications Services

- City of Redondo Beach Department of Public Works staff shall continue to meet and communicate on a regular basis with the Southern California Edison Company, the Southern California Gas Company, the General Telephone and Electric Company, the Pacific Bell Telephone Company, and the Century Cable Company (or other future local purveyors) regarding the operation, maintenance, and improvement of the local electric, natural gas, and telecommunications infrastructure systems (*Policy 6.4.1, 6.5.1, 6.6.2*).

- Prior to project approval and construction, and in accordance with the local environmental and development review process), ensure that adequate electricity, natural gas, and telecommunications service can be provided to all new local development (*Policy 6.4.2, 6.5.2, 6.6.1*).
- Require, where project impacts necessitate and law allows, that the cost and construction of specific upgrading or improvement of local sanitary electrical, natural gas, and telecommunication infrastructure systems be borne directly by project proponents, through payment of impact fees, participation in benefit assessment districts, and direct construction and eventual public dedication of such improvements (*Policy 6.4.6, 6.5.2, 6.6.1*).
- In accordance with the local environmental and development review process, require undergrounding of all on-site utilities and connections to local distribution systems in all new development. Permit a variance from this requirement if it can be demonstrated that such undergrounding will be physically infeasible or would otherwise result in a significant hazard to the community (*Policy 6.4.3, 6.5.3, 6.6.4*).
- City of Redondo Beach Department of Public Works staff shall continue to aggressively pursue funding mechanisms (outside the General Fund), to undertake additional, incremental, undergrounding of all local electrical utility infrastructure, cable television lines, and overhead telephone lines, similar to the electrical undergrounding efforts completed along Artesia Boulevard (*Policy 6.4.4*).
- City of Redondo Beach Department of Public Works staff shall identify priority sites and fund the illumination of all local public streets, alleys (where required), and public areas; upgrading areas which are deficient. The use of benefit assessment districts for such funding shall be pursued (*Policy 6.4.5*).
- Continue to meet formally with Southern California Edison Company officials to discuss and review operational/environmental conditions and impacts of their facilities upon the local community. Efforts in this area shall focus on identifying and implementing (where feasible) capital and operational measures to mitigate the severity and occurrence of the impacts of these facilities relative to noise, air quality, etc. This effort should include public forums, held (on at least an annual basis) in the community, to engender public input and suggestions of additional feasible mitigation measures (*Policy 6.4.8*).
- City of Redondo Beach Department of Public Works officials shall continue to actively monitor federal, state, and regional analysis and activities related to the issue and impacts of Electromagnetic Radiation Frequencies (EMF) [from electrical transmission operations). The City shall conform to and shall, if

feasible, mandate all local public utility operators to conform to applicable federal and state requirements related to this subject (*Policy 6.4.9*).

- City of Redondo Beach Department of Public Works staff shall work with officials of the Southern California Edison Company and the Southern California Gas Company to create additional written materials for public distribution and visual materials explaining the potential and existence of local energy/resource deprivation conditions and the need/methods for personal and local energy conservation. This effort should include the videotaping of a session to be played on a regular basis on the local government access cable television system, as overall program scheduling allows (*Policy 6.4.7, 6.5.4*).
- City of Redondo Beach Department of Public Works staff shall cooperate and work with officials of the Southern California Edison Company, and the Southern California Gas Company to initiate and facilitate programs for energy audits of existing development. These audits should define the current level of use and should also allow potential impacts to air noise, etc. to be identified and mitigated (*Policy 6.4.7, 6.5.4*).
- The City of Redondo Beach and Century Cable Company (or future service purveyors) shall continue to allocate funds and resources, as feasible, for the expanded production and transmission of cable television programs and information to residents and business persons; particularly government and community service meeting and events, public services and activities, and other non-profit or community service programs. Expand programming topic variety and services as additional funds become available and opportunities present themselves. Specific mechanisms should be developed to resolve recurring service problems and upgrade/replace these services if the problems cannot be acceptably resolved (*Policy 6.6.1, 6.6.2, 6.6.3*).
- The City of Redondo Beach Community Development Department (through the development, environmental, and building permit review and approval process) shall ensure that satellite dishes and other large or highly visible telecommunications devices are sited to be shielded from public view, and designed to be compatible with surrounding land uses and the urban and architectural design character of the area (*Policy 6.6.5*).

Groundwater (Seawater) Intrusion

- Continue to assist the County of Los Angeles Department of Public Works Flood Control Division in the ongoing operation, maintenance, monitoring, and expansion (as necessary) of the West Coast Basin Barrier Project to protect against seawater intrusion (*Policy 6.7.1*).
- City of Redondo Beach Department of Public Works staff shall continue to meet and communicate on a regular basis with Los Angeles County

Department of Public Works Flood Control Division officials to review and discuss the operational status of the West Coast Basin Barrier Project to ensure the most efficient operation and maintenance of the system (*Policy 6.7.2*).

- The City of Redondo Beach Community Development Department and City of Redondo Beach Public Works Department shall, through the local design and environmental review and approval process, ensure that new development proposed in the area of the existing groundwater (seawater) intrusion barrier and water injection well system will not create any adverse impacts or damage to the operation of the system (*Policy 6.7.3*).

Petroleum Pipeline Facilities

- City of Redondo Beach Department of Public Works officials shall, on an ongoing basis, contact all companies and entities operating and/or maintaining petroleum extraction or transportation facilities within the community to receive updates on ownership and operational activities, and provide information relative to the City's policies, practices, and requirements in relation to these facilities (*Policy 6.8.1*).
- City of Redondo Beach Department of Public Works officials shall complete and continue to maintain and update their ongoing textual and graphic inventory of the operators, location, and function of all petroleum extraction and transportation operators in the City, to assist in assuring safety and information availability in planning and other development and construction-related activities (*Policy 6.8.2*).
- Adopt an ordinance to require formal inspection and monitoring of all petroleum extraction and transportation facilities in the City to ensure an organized and accountable means of achieving this task, and improve and ensure the continued safe and effective operation of these facilities. The inspection and monitoring program shall be managed and overseen by the City of Redondo Beach Department of Public Works (*Policy 6.8.3*).
- The City of Redondo Beach Community Development Department and City of Redondo Beach Public Works Department shall, through conditions mandated in the local design and environmental review and approval process, building inspection and citation process, and conditional use permit issuance and renewal process, ensure that all above-ground petroleum extraction and transportation facilities in the community are designed, constructed, and maintained in an aesthetically-pleasing manner (*Policy 6.8.4*).

SECTION 3.3

Solid Waste Management and Recycling

3.3 SOLID WASTE MANAGEMENT AND RECYCLING

3.3.1 Solid Waste Management

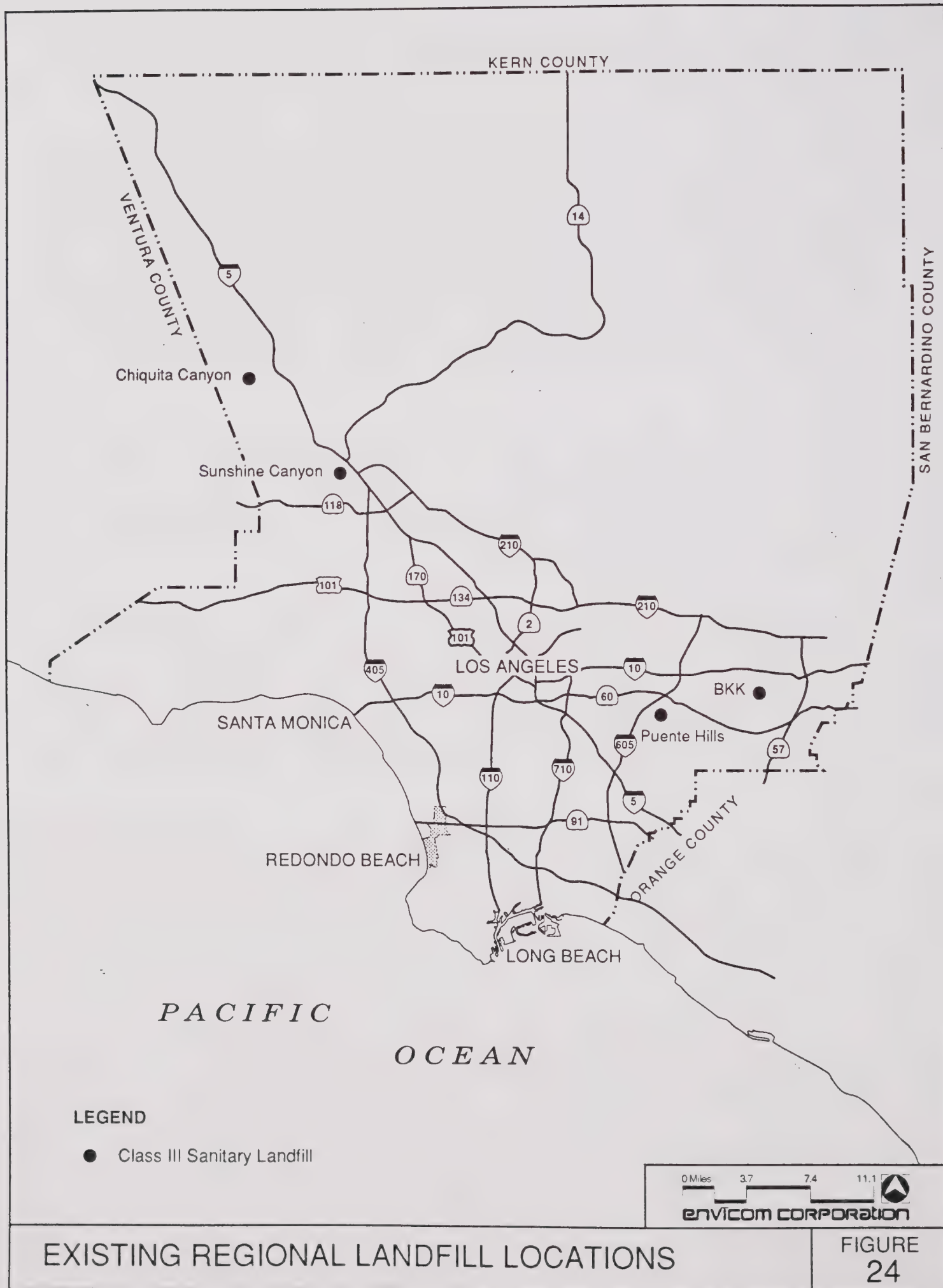
The City of Redondo Beach (including all residential, commercial, and industrial land uses) currently generates approximately 83,100 tons of solid waste per year (approximately 228 tons per day). This amount of solid waste is expected to increase proportionately in the future relative to the increase of the City's residential population and expansion of commercial/industrial activity. Solid waste collection and transportation in the City is currently provided by a private refuse collector, managed and overseen by the City of Redondo Beach Public Works Department. This mirrors the region-wide and nationwide trend of the privatization of numerous community services and utility services, as feasibility and efficiency merits.

Western Waste Industries is the specific private solid waste collector presently under formal contract to the City of Redondo Beach to service residential, commercial, and industrial properties in the community. The one exception to this exclusive service arrangement is TRW, which has been specifically excluded from the agreement with Western Waste because they are such a large generator of refuse (over 50,000 cubic yards annually).

In practice, the local garbage trucks pick up the solid waste from the source locations (homes, and businesses) and transport it to refuse transfer stations, where larger trucks haul the collected refuse to a range of different landfills across the region (Figure 24). Western Waste Industries operates its transfer station out of Carson which hauls the refuse to either the Chaquita Canyon, Ben K. Kazarian/West Covina, and Puente Hills landfills. A small portion of Redondo Beach's refuse is taken to the Southeast Resource Recovery Facility (SERFF), a waste-to-energy facility located in Long Beach.

Each of the aforementioned landfills serving the region (and the City of Redondo Beach) will eventually be required to close after reaching their licensed capacities. Operational permits may be granted, however, which extend the life of the landfills beyond the dates given below. The latest projected closure dates of the respective landfills are as follows:

<u>Landfill</u>	<u>Closure Date</u>	<u>Potential Capacity</u>
BKK West Covina	December, 1995	17 million tons
Chaquita Canyon	November, 1999	28.9 million tons
Puente Hills	October, 1993	70 million tons



The primary issue facing the City of Redondo Beach in the area of solid waste disposal and management, much like the region and the country, is that of the long-term life span/availability, and environmental safety of our present system of primary solid waste removal (i.e., dumping into landfills).

Currently approximately ninety percent (90%) of solid waste in the State of California is dumped into the various landfills serving the State. All other related issues (i.e., number of companies permitted or contracted to collect solid waste in the City, length of contracts, etc., are secondary, and actually more in the line of practical implementation at the "ground-level" on a day-to-day basis).

In addition, the State Legislature, through Assembly Bill 939, The California Integrated Waste Management Act of 1989, mandated that all cities prepare, adopt, and submit a comprehensive solid waste management plan to the county within which they are located by January 1, 1992.

The plan must address and detail each individual community's efforts and intended policies in the areas of waste characterization, source reduction, recycling, composting, solid waste facilities, education/public information, funding, special wastes, and hazardous wastes. The law also mandates that communities meet certain specific identified targets for percentages of waste reduction and recycling over specified time periods (25 percent by 1995 and 50 percent by the year 2000).

In an effort to effectively meet this mandate, the City of Redondo Beach City Council has appointed a 7-member Resource Conservation Commission, who, under the auspices of the Department of Public Works, are assisting the City in developing and adopting this plan.

3.3.2 Recycling

The Beverage Container Recycling and Litter Reduction Act of 1986 requires that all convenience zones (any area within one-half mile from a grocery store) must have at least one recycling facility. As of January 1, 1988 a fee of \$100.00 per day was to be assessed to each business in the convenience zone for non-attainment.

Pursuant to this State law, the City of Redondo Beach amended its municipal code in order to conditionally permit recycling facilities in commercial and industrial zoning districts.

Reverse vending machines and bulk reverse vending machines are permitted in commercial and industrial zones following a non-discretionary approval. Small recycling collection facilities are permitted under a conditional use permit. Larger recycling collection and processing facilities require a conditional use permit and site plan review and approval.

In addition to these local zoning code amendments permitting convenience zone recycling facilities, the City of Redondo Beach is currently implementing and continuing to develop a progressive "curbside" recycling plan relative to single family residential structures that will be expanded to include multi-family buildings in 1992.

For the single-family residential program, Western Waste provides two thirteen gallon, orange-colored bins to each dwelling unit, in order to assist in the implementation of the recycling program. One of the bins is used for glass, plastic and metal containers, while the other bin is used for the collection of mixed waste paper products, including newspaper. Western Waste picks up the recycling bins once per week with their regular trash collection. Latest available figures indicate that City-wide, residents participating in the program are presently recycling approximately nineteen percent (19%) of all household waste.

The provision of recycling services to commercial/industrial properties is addressed in the Integrated Solid Waste Management Plan, and provided for in the exclusive waste removal contract.

3.3.3 Goals, Objectives and Policies

Solid Waste Management

Goal *It shall be the goal of the City of Redondo Beach to:*

7A Promote, develop, and maintain a comprehensive plan and strategy to manage the City's solid waste collection, transportation, and management in an efficient and environmentally-sensitive manner, and in accordance with all applicable state laws.

Objective *It shall be the objective of the City of Redondo Beach to:*

7.1 Ensure that all available means of modern and efficient solid waste collection, transportation, and management are provided to the residential, commercial, and industrial users in the community, in accordance with evolving industry regulations and standards.

Policies *It shall be the policy of the City of Redondo Beach to:*

7.1.1 The City of Redondo Beach shall actively participate and interact with other local cities, state and regional governments/agencies and planning bodies, and local and regional solid waste removal purveyors in pursuing and securing responsible long-term solutions for solid waste removal. These solutions may include, but, not be limited to: a) the securing of additional capacity and life span for existing operational

landfills; b) the construction and operation of new solid waste landfills; and c) the construction and operation of "waste-to-energy" facilities.

- 7.1.2 The City of Redondo Beach (principally through the Department of Public Works) shall continue to analyze and interpret solid waste generation rates, waste removal practices, and other events and trends related to solid waste generation and removal, to further increase the effectiveness and efficiency of its removal and increase the potential and practice of solid waste management/reduction and recycling programs.
- 7.1.3 The City of Redondo Beach (principally through the Department of Public Works) shall continue to encourage, support, and monitor the efforts and activities of the City's Environmental and Utilities Commission relative to solid waste removal and management and the creation and adoption of a comprehensive solid waste management plan. This body was appointed by the City Council to develop, adopt, and implement the City of Redondo Beach Solid Waste Management Plan, as mandated by the State Legislature in Assembly Bill 939.
- 7.1.4 The City of Redondo Beach shall implement a solid waste/recycling education and information dispersal campaign/program at the local level, in order to supplement those currently instituted by state and regional governments and non-profit organizations through the various television and print media.

Recycling

Goal *It shall be the goal of the City of Redondo Beach to:*

- 7B Increase the public awareness of the need to, and the means through which individual citizens, property owners, and business people in the community can successfully participate in local recycling programs.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 7.2 Increase the range and amount of solid waste that is recycled throughout the community, in accordance with all applicable state and local requirements, while achieving the resultant environmental and financial benefits and advantages of such activities.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 7.2.1 In an effort to increase the rate and efficiency of recycling resources and collection facilities available to the community, the City of Redondo

Beach, through its revised Municipal Code, shall continue to permit the siting and construction of reverse vending machines in commercial and industrial zones, shall continue to permit small recycling collection facilities in these zones through a conditional use permit process, and shall continue to permit large recycling collection and processing facilities through conditional use permit and site plan review procedures and approvals.

- 7.2.2 The City of Redondo Beach (principally through the Department of Public Works) shall continue to analyze and interpret solid waste generation rates, waste removal practices, and other events and trends related to solid waste generation and removal, to further increase the effectiveness and efficiency of its removal and increase the potential and practice of solid waste management/reduction and recycling programs.
- 7.2.3 The City of Redondo Beach (principally through the Department of Public Works) shall continue to encourage, support, and monitor the efforts and activities of the City's Environmental and Utilities Commission relative to integrated waste management activities. This body was appointed by the City Council to develop and implement the City of Redondo Beach Solid Waste Management Plan, as mandated by the State Legislature in Assembly Bill 939.
- 7.2.4 In the interim, the City should continue to proactively encourage, engender, and monitor its existing "curbside" recycling plan, neighborhood and group recycling plans and efforts, recycling by larger property owners and commercial and industrial businesses to increase the amount of participation and range of materials that are presently being recycled.
- 7.2.5 The City of Redondo Beach shall, as feasible and appropriate, require that all new or remodeled multi-family residential, commercial, and industrial developments develop and submit a formal "recycling plan," designating where and through which means materials will be stored for recycling purposes. The City Department of Public Works shall assist the City Community Development Department in reviewing these plans.

3.3.4 Solid Waste Management and Recycling Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies contained within the Solid Waste Management and Recycling Section. Each implementation program is followed by a number or

numbers indicating the pertinent policy or policies which it is intended to help implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

- Representatives of the City of Redondo Beach Department of Public Works shall review relevant journals and technical reports, shall attend public agency presentations and professional seminars, and shall regularly contact and meet with representatives of local, regional, state, and federal government agencies and private solid waste removal purveyors in an attempt to monitor ongoing and evolving solid waste removal and management technology and policies, and assist in the pursuit of responsible, long-term solid waste removal and management (*Policy 7.1.1*).
- Representatives of the City of Redondo Beach Department of Public Works shall continue to collect, monitor, analyze, and interpret data and events related to local solid waste generation, removal, and management. The findings of these efforts shall be used to improve local solid waste removal and management and improve source reduction activities and recycling efforts, in an effort to ensure local compliance with the adopted local Solid Waste Management Plan (*Policy 7.1.2, 7.2.2*).
- Representatives of the City of Redondo Beach Department of Public Works shall provide technical support, encouragement, and assistance to the City of Redondo Beach Environmental and Utilities Commission, as staffing and budgetary conditions allow, to assist this body in carrying out their intended role in the area of solid waste removal and management (*Policy 7.1.3, 7.2.3*).
- Representatives of the City of Redondo Beach Department of Public Works and the City of Redondo Beach Environmental and Utilities Commission shall expend all reasonable efforts to assure that a comprehensive and legally-adequate City of Redondo Beach Solid Waste Management Plan is created and adopted, in accordance with the provisions of Assembly Bill 939. It shall also be a primary responsibility of these bodies to ensure that the Plan is updated, as necessary, to reflect evolving conditions and continues to conform with future local, regional, state, and federal regulations and legal requirements (*Policy 7.1.3*).
- As staffing and budgetary conditions allow, representatives of the City of Redondo Beach Department of Public Works shall create educational and public informational programs to better inform the community about the issues and responsibilities related to solid waste removal and management. Such efforts shall include, but not be limited to: pamphlets and newsletters, speaking appearances or presentations before local school, business, and community groups, and "seminar" format presentations that can be broadcast

on a regular basis on the local cable television government access channel (*Policy 7.1.4*).

- The revised City of Redondo Beach Municipal Code shall contain specific provisions including: 1) permitting the siting and construction of reverse vending machines in local commercial and industrial zones; 2) allowing the siting and construction of small recycling collection facilities in these zones (through the conditional use permit process); and 3) allowing the siting and construction of large recycling collection and processing facilities (through the conditional use permit and site plan review process), in order to increase the rate and efficiency of local recycling efforts (*Policy 7.2.1*).
- Prior to and in addition to formal adoption of the City of Redondo Beach Solid Waste Management Plan, the City of Redondo Beach Department of Public Works shall continue to manage and monitor the existing local "curbside" recycling program. This effort shall include ongoing meetings with and presentations before local businesses, property owners, and resident or community groups to increase awareness of the need to recycle, and visits or inspections to monitor and further ensure compliance and performance in these areas by the targeted "recyclers" (*Policy 7.2.4*).
- The City of Redondo Beach shall, as feasible and appropriate, include a provision for the inclusion and review of mandated formal "recycling" plans in the environmental and site plan review and approval process of all new or remodeled multi-family residential, commercial, and industrial development proposals. This component shall be incorporated into the overall development and environmental review and approval process (potentially through a provision within the revised City of Redondo Beach Municipal Code). These "recycling" plans must specifically designate where and through which means materials will be stored, separated, and processed for recycling purposes (*Policy 7.2.5*).

SECTION 3.4

Conservation, Recreation and Parks, and Open Space

3.4 CONSERVATION, RECREATION AND PARKS, AND OPEN SPACE

The Conservation, Recreation and Parks, and Open Space Elements of the City of Redondo Beach General Plan, originally developed in 1973, were updated in March of 1986 by EDAW, Incorporated (an independent consulting firm retained by the City at that time to carry out a specific update of these three elements).

The 1986 update was recommended for approval by the Recreation and Parks Commission and by the Planning Commission. The City Council deferred adoption of the three elements in order that they be included as part of the comprehensive update of the General Plan. The 1986 draft of these elements has been reviewed to ensure a consistency with the remainder of the General Plan and to ensure that the information is accurate. Only minor revisions have been made to the original documents, where necessary, to bring the elements up-to-date.

Although each of the three individual elements: 1) Conservation; 2) Recreation and Parks; and 3) Open Space have their own specific and unique characteristics, there is considerable overlap between them, since all essentially deal with the protection, management, and use of the City's natural and aesthetic resources. Conservation measures necessary to protect and preserve the beach lands are essential parts of the community's open space plan. Open space planning directly involves the use of land for park and recreation purposes. Recreation planning must be sensitive to the open space needs of residents and conservation measures necessary to protect the City's natural resources. With continuing urbanization and development occurring in the City, these resources play an increasingly important role in preserving or enhancing the quality of life for residents and visitors.

Purpose of the Conservation Element

Conservation of the City's and region's natural resources is a public commitment for the planned management of natural resources. This commitment strives to preserve and enhance the natural environment for the long-term benefit of residents and visitors. Conservation issues within Redondo Beach include: preservation of the beach and waterfront lands; potential pollution sources; automobile congestion; and general development issues.

Purpose of the Recreation and Parks Element

Recreation is important to the quality of urban life in any community. Leisure services and open spaces that are well designed, properly located, adequately maintained, and serve the needs of intended users enhance the quality of life and the environment.

This is particularly important in a community such as Redondo Beach which has a limited amount of open space to serve the needs of a changing resident population. Key to the preservation and expansion of needed recreational open space and facilities are the city's school sites and other underdeveloped open space resources.

With the passage of time, change occurs in the City and adjustments to planning policies are needed. The adjustments to planning policies should reflect population changes in different areas of the City and in age composition. Family composition and life styles also change, causing differing needs for recreation facilities and activities. Often, additional parkland or different recreational facilities are needed to keep pace with the needs of the people. Physical facilities can become obsolete and must be replaced. Programs can also become outdated and must be restructured, and as a city becomes more dense, the need for open space becomes even greater.

To determine the most appropriate role and use of the various components comprising the City's natural and aesthetic resources of open space and recreation, it is necessary to develop a program involving those responsible for the development, operation and maintenance of the "resource" land holdings in the City. These include City departments, School Districts, County and State agencies, utility companies and various individuals and organizations.

Purpose of the Open Space Element

Open spaces are land and water areas where manmade features have been excluded or held to a minimum and which are accessible to people either physically or visually. The needs for open space are many and are often unquantifiable since they generally relate to the quality of life. These open space needs include: maintenance of community scale and identity; providing visual and physical relief from urban congestion; maximizing options for balancing future urban growth and open space preservation; and, providing social and psychological opportunities for the happiness, health, safety and well being of the community to be reinforced by association with the "natural" environment. Contributors to a total system of community open space are parks, school grounds, beaches, the ocean, building setbacks, streets, and utility rights-of-way, view and vista corridors, areas of natural relief and vegetation, etc.

Public land ownership or control is usually essential for carrying out an effective open space program. However, quasi-public lands such as utility rights-of-way, as well as private land can also make very valuable contributions, particularly where there is significant acreage involved. While open space is very important to most people, it unfortunately seldom gets the same degree of attention or priority as do many other more "basic" public services in contemporary society.

3.4.1 Methodology

The methodology used in updating the Conservation, Recreation and Parks, and Open Space Elements involved five major tasks, including: 1) inventory and documentation of existing open space and parkland, programs, and undeveloped public properties; 2) meetings with residents and the use of a recreation needs survey to identify trends in recreation use and needs; 3) evaluation of existing and potential sites; 4) projection of future recreational needs; and 5) development of policy recommendations and potential implementation measures.

Each task examined the individual aspects of each of the four individual geographic recreation planning areas defined by the City of Redondo Beach, as well as the City of Redondo Beach as a whole. The five tasks are described below.

(1) Inventory and Documentation of Existing Resources

The first task included an inventory and documentation of existing public and private recreation facilities, land, and programs in the City. Size of facilities and geographic distribution in relation to sub-neighborhood groups was examined. School sites and utility rights-of-way were also identified. A total of twenty-one City-owned vacant or unused sites were also included in this inventory.

(2) Resident Interviews and Needs Survey Analysis

The second task included meetings with resident focus groups and the development and distribution of a recreation needs survey to identify the recreation use trends and needs of local residents. Several meetings were held with residents to hear their needs and concerns and to develop questions for the survey questionnaire. A survey was then developed to be used as a verification tool in conjunction with personal interviews and City recommendations. The survey sample consisted of two groups, including residents who were interviewed while using park facilities and those found at home, either in person or by mail.

(3) Evaluation of Potential Recreation and Open Space Sites

The third task included an evaluation of the recreational and open space potential of school sites, utility rights-of-way, publicly-owned properties and other vacant sites. The proximity to neighborhood needs, site suitability and availability was examined.

(4) Recreational Need Projections

The fourth task included a projection of the recreational and open space needs of various population age groups in the community.

(5) Policy Recommendations

Finally, the last task included the creation and recommendation of goals, objectives, policies, and implementation programs for the management and operation of the conservation, recreation and parks, and open space programs, recommendations for improvements to existing recreation programs and facilities, and recommendations for potential additional facilities. Potential funding sources for these purposes were also identified and examined.

Valid and appropriate aspects of the previously adopted 1973 Conservation, Recreation and Parks, and Open Space Element contained within the City's 1964 comprehensive General Plan, have been retained in the update of this document.

3.4.2 Conservation Element

The primary objective of the Conservation Element is to designate those areas of natural resources within the City of Redondo Beach in order that policies for their effective conservation and utilization can be developed and carried out. Since a number of the natural resources of the City are of region-wide significance, it is necessary that the Conservation Element be coordinated with the responsibilities and actions of other governmental agencies and jurisdictions, including: the State of California; County of Los Angeles; and adjacent municipalities and service districts.

Beach and Waterfront Lands

Approximately 2.4 miles of the City of Redondo Beach borders directly on the Pacific Ocean at the Southeastern edge of Santa Monica Bay. Because of the hilly topography of the southerly portion of Redondo Beach and the inland location of the northerly part of the City, the beach and ocean can only be viewed from a limited geographic area of the community. Nevertheless, the aesthetic and climatic impact of the ocean is quite evident throughout the entire City; a general sense of proximity to the coastal area is provided by the wind, moisture, and reduced/moderate temperatures.

The ocean, beach, and waterfront are the most obvious important natural resource that the City possesses, and uniquely characterizes the community, even in relation to other local coastal cities. These are publicly regulated resources and not only are important to the people of Redondo Beach, but to the Los Angeles Metropolitan Area as a whole, as they constitute a regional resource.

The beach area consists of approximately 1.4 linear miles of uninterrupted expanse of sand (south of the Municipal Pier) which varies in width according to season and tidal conditions. About one-half of this portion of the city's coastline is open to direct public view from the Esplanade, which varies in elevation above the beach

along its length, offering unique vantage points for viewing the beach and ocean and activities taking place on them.

The King Harbor area and related commercial recreation facilities occupy approximately one mile of the waterfront land northerly of the beach. To many local residents and non-residents alike, King Harbor is the predominant "image" of the City of Redondo Beach and the single-most recognizable area of the community, formed by a complex of marinas, fishing piers, restaurants, hotels and retail shops. During the 1970's the City of Redondo Beach Redevelopment Agency developed the "Village" a large project directly adjacent to (east of) the King Harbor area, which contains a variety of condominium residences and apartments.

Two parking structures and Czuleger Park (formerly Plaza Park) are included within the project. Construction of this development served to significantly intensify the use of waterfront lands and beach areas.

The State of California is the owner, and the County of Los Angeles, the operator, of the State Beach, which extends from the Municipal Pier southerly to the City of Torrance municipal boundary. The beach is an attraction and place of interest for a wider regional population, above and beyond that of the City of Redondo Beach; including swimmers, surfers, fishermen and perhaps in the greatest numbers of all, viewers, casual strollers, and other passive users. This area is also a very important recreation area for residents of the City of Redondo Beach, and is visited by residents more often than local parks. The County of Los Angeles Department of Beaches estimated that approximately 3.4 million total persons (including City residents and non-City residents) visited Redondo State Beach in 1990 (this figure includes only actual beach-goers, not patrons or people strolling on the Municipal Pier, or points north of the Pier).

The physical stability of the beach is essential to the public welfare because erosion decreases the sand area available for public use and increases the potential for danger of wave damage to structures. Winter storms in the past have severely reduced the width of the sand area of the beach due to erosion. Conversely, it is also important that the excess deposition of sands not occur, since the beach can then become excessively wide, making access to the water difficult, and creating shallows, irregular erosion, and dangerous subsurface conditions due to irregular erosion and currents.

Generally, solid structures built along a beach can cause serious instability because of their interference with the littoral drift. The City of Redondo Beach has a unique condition, a submarine canyon (Redondo Canyon), situated directly to the west of the Municipal Pier, which causes the littoral drift to deposit sand in a northerly rather than the standard southerly direction. Solid structures have been erected to stabilize the beach because of this condition. Any other such structures should not be built without careful geotechnical analysis of their potential impacts on beach stability.

Dredging operations are occasionally needed to keep the harbor floor clear of debris and open to navigation by vessels, but they may also contribute to altered environmental conditions along the beach. However, sand bars have been developed through use of dredge spoils by the County of Los Angeles, to provide for the recreational use of the beach and ocean; this action has been weighed against the environment impact of dredging actions. Care must be taken in any future such operations to minimize their potential environmental impacts.

The City of Redondo Beach owns, and is responsible for the overall operation and maintenance of, King Harbor and its attendant commercial recreation facilities (through the local harbor department).

This complex represents a significant, successful effort at creating a valuable addition to regional marine-related facilities for the people of the Los Angeles Metropolitan area.

The existing local harbor and marine-related installations are attractive physical and functional additions to both the City of Redondo Beaches' and Los Angeles metropolitan areas' commercial-recreational facilities. There have been increasing problems with automobile congestion as these areas have become more intensely used.

There are also areas where public accessibility to the waterfront has been limited by private structures and operations. The overall effect of this area, however, is one of striking contrast to other Los Angeles County beach cities, where waterfront use is limited to fishing piers and beach-based recreation activities. This "difference" represents a unique resource which, with careful refinement during its continuing evolution, can achieve solutions to the congestion, access, and other issues through implementation of recommendations in the City's adopted Local Coastal Program and through coordination with the various recommendations of the General Plan.

Pollution

The marine disposal of domestic and industrial wastes is a significant concern in the City of Redondo Beach. Most coastal communities in Los Angeles County practice waste disposal by primary and secondary treatment and dilution in marine waters. Discharge data for the two major Los Angeles County treatment plants are indicated. Other sources of marine pollution include debris from storm runoff, windborne trash, and other urban sources.

Wastewater Treatment Facilities
with Ocean Discharge in Los Angeles County (1990)

<u>Treatment Plant</u>	<u>Treatment</u>	<u>Flow (mgd)</u>
JWPCP (Joint Water Pollution Control Plant at Palos Verdes Peninsula)	Advanced Primary	383
	Secondary	200
Hyperion Plant (Playa del Rey)	Primary	420
	Secondary	100

Source: County Sanitation Districts of Los Angeles County, September, 1991

According to the State of California Department of Fish and Game, wastes in the marine environment during the past decade were only considered to be a problem if they were "unsightly, odoriferous, killed fish, or were a menace to public health." More recently, it has become evident that "even subtle changes in the environment as a result of waste discharge can eventually produce adverse effects." It is expected that objective biological studies regarding waste discharge, conducted by the appropriate regulatory agencies, can result in guidelines insuring the protection of living marine resources from continually increasing waste treatment and disposal operations.

Less dramatic in terms of their magnitude of impact on ocean pollution effects, but nonetheless continuing problems, are the discharges of marine toilets, oil spillages and trash disposal resulting from private and commercial boating activities. Appropriate regulations should be enforced upon these activities to keep water pollution and surface debris at a minimum within the marina/harbor area.

Water quality sampling for coliform bacteria has been carried out by the Los Angeles County Health Department in several locations within King Harbor for many years. According to County officials, the harbor's water quality is good and allowable limits for coliform bacteria are rarely exceeded. Since the summer of 1986, ongoing water quality sampling for coliform bacteria has been conducted along all state beaches within Los Angeles County, including Redondo State Beach.

Automobile Parking and Access

The primary means of present-day access to the harbor and attendant commercial facilities is by automobile. While a large parking structure has been developed adjacent to the pier and "Village" area, surface parking is used throughout the King Harbor area.

This situation has created two significant problems relative to conservation. First, high value, oceanfront/view land has been allocated for vehicle storage, when this land could be better utilized for public open space or commercial/residential uses. Second the large surface parking lots detract from the aesthetics of the overall King Harbor and waterfront area. Even the existing decorative landscaping, earthen berms, and decorative walls do not fully mitigate the adverse visual and environmental effects of large expanses of asphalt and parked cars.

Good conservation practices suggest that this land could be put to more efficient use through the transport of visitors to the beach area by public/mass transit and through a more efficient use of the existing parking areas.

Southern California Edison Company Electricity Plant

The Southern California Edison Company's Electricity Plant visually dominates the northerly approach to the City's harbor and commercial recreational facilities. The plant was operating long before this area of the City began to redevelop into its present complex of modern, ocean-related, housing and recreational facilities. The steam plant is one of the Southern California Edison Company's largest existing facilities. The existing plant was designed to burn fossil fuel and has a generating capacity of approximately 1,602 megawatts (one megawatt equals one million watts). The plant condensers are cooled by a large intake from the ocean. The warm water thermal waste is discharged back into the harbor area.

The State of California Department of Fish and Game has indicated that limited quantities of thermal waste water may enhance a marine area by attracting warmer water species; this has been the case in the local harbor area, where fishermen have been catching warm water game fish (such as bonita). Some types of California shell fish and crustaceans also thrive in these warm water conditions.

Conversely, cold water species generally move out of these areas because of the introduction of warm water. According to the State of California Department of Fish and Game, excessive amounts of thermal effluence can be extremely damaging to marine biological resources. The State reported that the marine environment has a limited capacity to assimilate thermal waste without adversely affecting some living resources. These impacts are similar to those created by industrial and domestic waste. Recent scientific documents relative to this matter report a concern "about the effects of thermal 'overloading' on the environment."

"For example, giant kelp requires cool waters below 66° Fahrenheit to prosper; when water temperatures exceed 60° Fahrenheit, plant tissues may deteriorate and sloughing occurs. Under normal conditions, water temperatures will exceed 60° Fahrenheit for a few months, during summer, and kelp beds begin deteriorating. As soon as surface temperatures fall below this point, the kelp beds start to recover. If thermal waste is injected into the environment, water

temperatures may remain above 66° Fahrenheit for some distance from the discharge point. The distance from which surface temperatures would exceed ambient waters would be governed by current and volume of thermal loading. Surface canopies of any giant kelp bed within an area so influenced will soon disappear along with a constellation of marine organisms that are associated with them."

The Southern California Edison Company currently discharges heated water from the plant into the Pacific Ocean. There is no particular problem identified with this practice at the present time. The salt water circulation system for generation units #1 through #6 now operate with intake conduits located inside King Harbor. The discharge conduits are north of, and some distance outside the breakwater which forms King Harbor.

This operating method promotes water circulation within the harbor, and is one reason for the more abundant marine life in the harbor area. Proposed additional rates of discharge over the permitted amount of heated water from the Southern California Edison Electricity Plant should be reviewed in relation to the possibility of marine biological damage, and should be controlled as needed.

Additional Natural Resources

Other lands and areas in the City of Redondo Beach have been analyzed as part of the update of the Conservation Element, including private, public, and quasi-public land holdings which contribute to the community's natural resources, both above and below the ground.

Soils: The type and nature of the soils existing in the City of Redondo Beach have permitted the area to be developed and urbanized quite easily. The Los Angeles County Department of Public Works has established that the community consists of soil types (010) Oakley Fine Sand, which is described as "a range in texture from sand, on the one hand, to a sandy loam on the other, the latter condition occurring especially on the lower slopes and near heavier textured soils. "The Oakley fine sand is confined to areas near the coast."

The United States Department of Agriculture (under the Soil Conservation Service) has placed the soil in the City of Redondo Beach within the Oceano association of the Group II soils group profile (generally containing areas of 2 to 5 percent slopes, subject to wind erosion [in a natural state]. This specific soil type "is generally over 60 inches deep, is excessively drained, and has rapid subsoil permeability; they have grayish-brown, slightly acid and medium acid sand surface layers about 4 inches thick, underlain by a light, brownish-gray strongly acid subsoil about 16 inches thick, the substratum is pale-brown, strongly acid sand." "These soils are highly susceptible to wind erosion if left unprotected; inherent fertility is low." Under the USDA's national land capability system (used to judge land for agricultural purposes), local soils have been typed as Class IV-e, having very severe limitations which restrict the choice of plants and require very careful management, but do not represent constraints to development.

Erosion has not been a serious problem in the City of Redondo Beach, since this soil type is conducive to rainfall absorption with the open structure of the soil giving good drainage and aeration. However, in exposed situations, the soil may drift if no mitigation (landscaping) is introduced.

Water: The City of Redondo Beach receives its domestic water supply from the California Water Service Company (CWSC), which serves a number of different communities in the South Bay and Los Angeles metropolitan areas (see the Utilities Section of the General Plan for additional information on this subject).

Water is obtained from groundwater wells owned and operated by the company. Supplemental water supplies are provided from the Colorado River, through a purchase agreement with the Metropolitan Water District. Distribution mains, pumping stations, and stand-by connections with the Palos Verdes and Los Angeles County Department of Public Works Flood Control Division systems have been developed by the California Water Service Company to provide water service to the area's citizens.

Well water sources are protected by the West Coast Basin Barrier Project, operated and maintained by the Los Angeles County Department of Public Works Flood Control Division (see the Utilities Section of the General Plan for additional information on this subject). The project injects fresh water into the underground aquifers to prevent the intrusion of salt water into fresh water wells. The County has drilled a series of injection points along Prospect Avenue, which pump fresh water back into the groundwater supply.

Drainage: Sumps have served as an important part of the City of Redondo Beach's drainage system since the community was first settled and began to develop. These drainage devices have been supplemented with storm drains as part of the Los Angeles County storm drain bond issue program (see the Utilities Section of the General Plan for additional information on this subject). With the installation of additional local storm drain facilities over time, the sump problem in the City of Redondo Beach has virtually been eliminated.

The remaining sumps in the community presently comprise a part of the community's open space resource, providing additional green space to break up the urban character of the community. Many of the older sumps have been converted into parkettes. At this time, none of the five remaining active sumps appear feasible for future development and use for public parkland. The large, deep, Wylie-Steinhart Sump remains problematic due to its size, the lack of an inter-City storm drain system (between the City of Redondo Beach and the City of Manhattan Beach, and prohibitive engineering costs to provide safe access, development for recreation use and drainage.

Oil Wells Redondo Beach is situated in one of the areas of the Los Angeles Basin where significant oil deposits and supplies are located. The City has entered into long-term agreements whereby these petroleum deposits can be safely extracted, transported, and used for commercial purposes. The State's Comprehensive Ocean Area Plan has developed policies relative to these activities through the State of California Division of Oil and Gas

"To so supervise oil operations as to prevent damage to the resource, fresh waters, life, health, property, and natural resources. The Division of Oil & Gas is charged with ameliorating subsidence of land overlying or adjacent to oil or gas fields when such land is threatened by inundation by the sea."

Locations in the City of Redondo Beach where working oil wells are located must be given maximum protection from the effects of these operations with respect to visual appearance, safety, spillage, odor, and noise. These areas are all located in the southerly part of the City, in the five following locations.

The facilities and locations, all in South Redondo Beach, are: 1) the Triton (Harbor) oil pumping facility, located at the southwestern intersection of Beryl Street and Portofino Way; 2) the Worldwide Pacific Oil oil separation facility, located due southeast of the intersection of Francisca Avenue and North Gertruda Avenue; 3) the Kelt/Rico Redondo (Alta Vista) oil pumping facility, located near the southeastern intersection of Camino Real and Juanita Avenue within Alta Vista Park; 4) the Kelt/Rico Redondo (Prospect) oil pumping facility, located at the southwestern intersection of North Prospect Avenue and Pearl Street; and 5) the Prospect/Anita oil pumping facility, located due west of North Prospect Avenue north of Anita Street. The general locations of these oil facilities in the community are noted (Figure 25). The State of California's specific policies regarding oil and gas extraction have a direct application to Redondo Beach. These are that:

- a. Maximum recovery of oil and gas shall be encouraged through various methods of secondary recovery and unit agreements.
- b. Environmental protection must be afforded all parts of the community. These include scenic values and damage due to oil and gas extraction operations.
- c. Multiple and sequential uses of land should be encouraged by well spacing, unit agreements, and abandonment of wells no longer capable of economic production:

Of all the locations of oil drilling sites in the community, the tank battery and well sites adjacent to King Harbor are the most exposed to public view and the most incompatible with adjoining land uses. Continuing efforts must be made at these locations to make their operations more compatible with continuing urban development occurring in these areas.



EXISTING LOCAL OIL WELL / FACILITY LOCATIONS

FIGURE
25

It is important that all continuing oil well operations should be conducted with derricks removed and landscaping and screening walls located around the sites. All new oil wells sites should be developed with subterranean pumping mechanisms. The potential noise impacts of the operation of these oil facilities on the community have been extensively documented and analyzed within the stationary noise portion of the noise section of the updated General Plan (see the Utilities Section of the General Plan for additional information on this subject).

Scenic Views: The State of California Comprehensive Ocean Area Plan classifies the ocean frontage of the City of Redondo Beach as one of "low terraces, exposed to the ocean."

Some magnificent and panoramic views of the ocean are available in the southerly part of the City. The Esplanade, areas along South Catalina Avenue, South Pacific Coast Highway, and from some east-west streets such as Torrance Boulevard and Beryl Street offer fine public vistas of the Pacific Ocean. Hills and bluffs roughly parallel the coast with some areas reaching heights of 160 or more feet above sea level.

Many beautiful views are possible from publicly-owned sites such as Wilderness Park, Redondo Union High School, Czuleger Park (formerly Plaza Park), Dominguez Park, and the area overlooking the Municipal Pier. Significant views are also available from many locations on private property in South Redondo Beach. These views, in part, have made the City of Redondo Beach such a desirable residential and tourist location.

When structures are developed on private property, views of the ocean and beach can be significantly obstructed. This problem is becoming even more acute as many older, single-story homes are being replaced with multiple-story structures. Views from streets are also impaired when tall buildings are constructed.

Some of the local coastal area's existing natural resources, including scenic views, are of such an outstanding nature, that they are or should be preserved in perpetuity for the people of the State of California (and possibly) the entire nation. More difficult to protect are those which are less spectacular, but nonetheless beautiful.

The preservation of views is a complicated issue in Redondo Beach, due to small lot sizes, undulating topography, and the significant level of existing urban development. These problems make a feasible view ordinance in the City all but impossible to create and effectively implement. Instead, the City has developed a balanced approach to help preserve views through the Redondo Beach Municipal Code (Section 10-2. 1405.4F2e) which states: "The configuration and orientation of the project should respect reasonable design limits imposed by the natural and manmade environment. The structures should be situated to take advantage of the view, topography, sun, and wind while, at the same time, not destroying such advantages for adjacent properties."

3.4.3 Recreation and Parks Element

An important factor related to the quality of urban life is the availability of public recreational space and activities. Recreational space contributes to the health and well being of local residents. One of the primary functions served by recreational space is the provision of outdoor recreation areas for sports activities, as well as passive use for relaxation. Important in the development of a good recreation and parks system is the adequate distribution, amount, and accessibility of such land within any community. In addition, the system should be developed with recreational facilities that assist in meeting this need. Also, because of the City of Redondo Beach's coastal location, regional recreation facilities are also important.

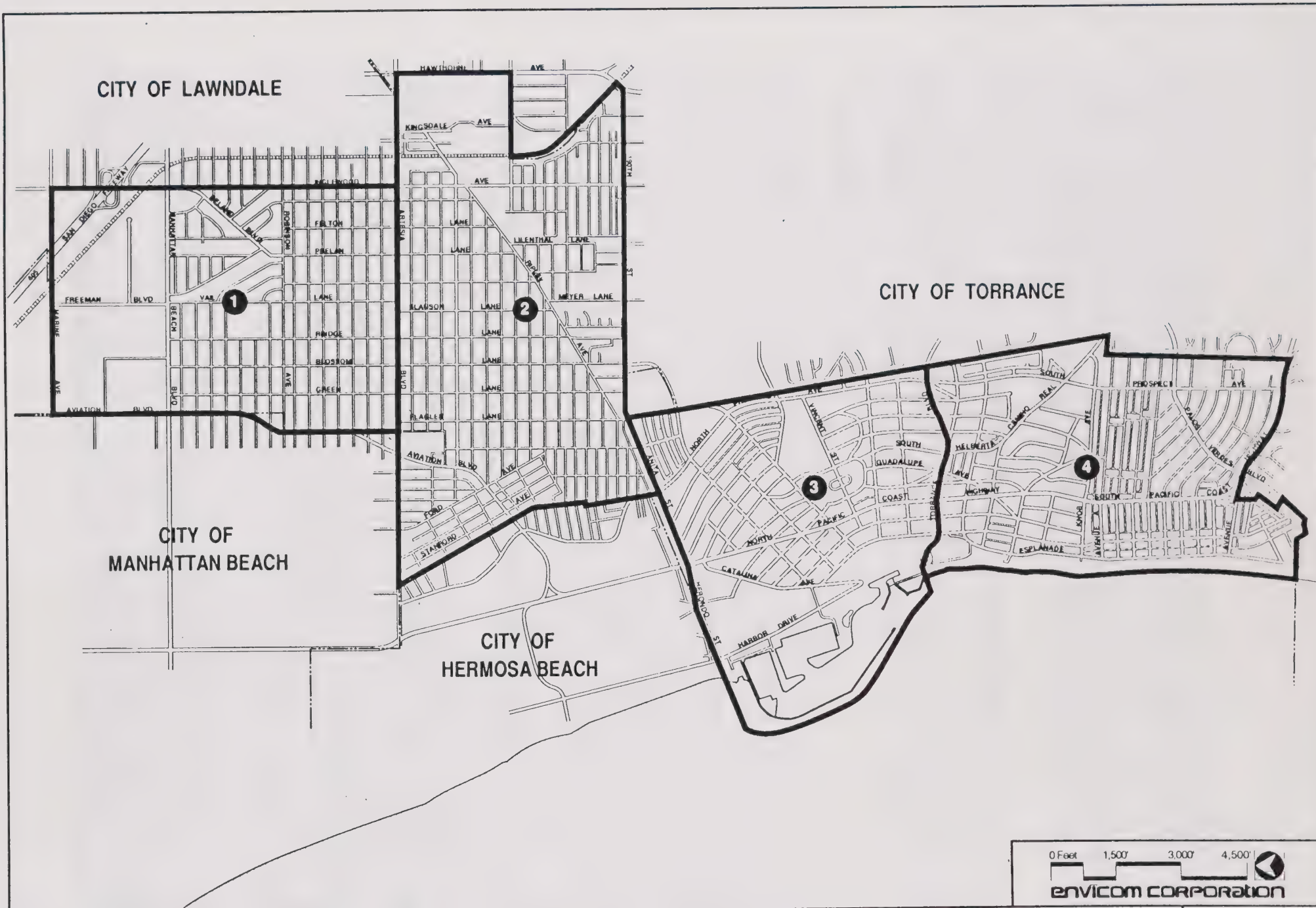
Primary responsibility for the planning, operation, and management of the City's recreation and parks resources and facilities rests with the City of Redondo Beach Recreation and Parks Department, a full "line" department of the City of Redondo Beach, whose offices were recently relocated from the Hopkins Wilderness Park to the Community Resources Center (formerly the Patterson School, located at 320 Knob Hill Avenue in South Redondo Beach).

Policy recommendations and other activities of the department are also overseen by the City Recreation and Parks Commission, a ten-member advisory body (much like the Planning Commission and Harbor Commission) appointed by and reporting to the Mayor and the City Council, serving staggered four year terms.

The two local school districts (the Redondo Beach City School District and South Bay Union High School District) are also highly involved in local recreation matters, due to the joint use and cooperative agreements between the City and the districts for the use and maintenance of local school facilities for public recreational purposes.

The planning of recreation resources in the community has been organized and made more equitable through the establishment of four geographic recreation planning areas by the City of Redondo Beach Recreation and Parks Department. The creation of these four areas was brought about to more precisely meet the varying recreational needs in the different areas of the community, rather than using a strictly city-wide planning approach. These four geographic recreation planning areas are discussed and referred to throughout the text of the Recreation and Parks Element (Figure 26).

Two unique problems facing the City of Redondo Beach relative to recreational facilities are: 1) the community is an older, established area; planning for new parks is not accomplished easily, since facilities cannot always be integrated into the existing development pattern of the community; and 2) the demographic profile of the city has changed dramatically over the last few decades, resulting in fewer families and children and more older single persons (see Section the Demographics and Human Resources section of the General Plan for additional information on this subject).



EXISTING LOCAL RECREATION PLANNING AREAS

This factor has resulted in a change in the need for certain types of facilities. Concurrent with this change, and a driving force behind the demographic changes in the City, is the recycling or redevelopment of older single family detached homes to multi-family attached homes. This has caused an increase in the intensity of the local population and a relative decrease in private open space, putting additional stress on the park system, particularly in North Redondo Beach.

One key to the preservation and expansion of recreational open space and facilities are the City's numerous elementary and high school facilities. Several schools (approximately eight facilities out of twenty-three [35 percent]) were closed in the late 1970's and early 1980's, due to dramatic shifts in local demographics resulting in significant declines in enrollment. In this regard, the Redondo Beach City School District (overseeing schools serving the elementary population, grades K through 8) and the South Bay Union High School District (overseeing schools serving the secondary population, grades 9 through 12) have been forced to consolidate their remaining enrollment population into fewer public school facilities. However, during the last few years, there have been increases in elementary school enrollments, indicating a more stable school-aged population in the future.

The public school facilities, whether operating or surplus, remain an important open space resource, particularly to residents of local neighborhoods. The ultimate reuse or disposition of these surplus public properties for continued public use, private development, or joint public/private use, is an important issue for all residents. Elimination at this time of any sites from the existing open space resource inventory may preclude any future public use of these sites, or may make future recreational development economically infeasible. Coordination and cooperation between the City of Redondo Beach and the Redondo Beach City School District and South Bay Union High School District in this regard is critical, to ensure the most appropriate future use of these facilities and properties.

Local Public Educational System

The provision of local public education is presently under the jurisdiction of two separate local school districts: 1) the Redondo Beach City School District, providing primary grade (K-8) education only within the City of Redondo Beach; and 2) the South Bay Union High School District, providing secondary grade (9-12) education within the City of Redondo Beach, the City of Hermosa Beach, and the City of Manhattan Beach.

At the time of publication of the General Plan document, a petition to create a single "unified" local school district (providing and overseeing grade K-12 education solely in the City of Redondo Beach) had recently been submitted to the Los Angeles County Committee on School District Organization. If approved by the County Commission, the petition would be submitted to the State Department of Education. If approved by the State, a measure would be placed on the November, 1992 ballot,

allowing local residents to determine if the unified school district would be formed. If approved by the community, the unified school district would be expected to begin operation on July 1, 1993.

The following section presents an operational and jurisdictional profile of the existing dual local public school district.

Primary Schools

The provision of local public primary school services in the community (grades K-8) are under the jurisdiction of the Redondo Beach City School District, an independent local school district formed and operated in accordance with state law. The District presently operates a total of ten individual school facilities. The following table presents a summary of information for the local primary school system facilities (including facility name/type, facility size, facility capacity, and existing facility enrollment):

Redondo Beach City School District: Facility Inventory (with existing enrollment)

<u>Name</u>	<u>Grade Level</u>	<u>Site Acreage</u>	<u>Pupil Capacity*</u>	<u>Existing Enrollment</u>
Alta Vista	K-6	14.0	558	517
Beryl Heights	K-6	4.2	480	390
Birney	K-6	2.8	402	243
Jefferson	K-6	7.8	690	380
Lincoln	K-6	12.0	792	769
Madison	K-6	4.1	510	411
Tulita	K-6	7.6	630	400
Washington	K-6	10.5	654	614
Adams	6-8	15.0	1,302	404
Parras [former Hillcrest]	7-8	12.0	1,032	442
<u>System Total</u>	<u>K-8</u>	<u>87.5</u>	<u>7,050 (100%)</u>	<u>4,570 (64.8%)</u>

Source: Redondo Beach City School District, September, 1991

The following inventory of historical local primary school enrollment from 1973 to 1991 is indicative of the demographic trends that have been experienced in the local primary school population.

Enrollment in Redondo Beach City School District (1973-1991)

<u>Year</u>	<u>Total District Enrollment</u>	<u>Difference</u>	<u>Percentage</u>
1973-74	7,678	n/a	n/a
1974-75	7,217	-461	-6.00
1975-76	6,855	-362	-5.01
1976-77	6,322	-533	-7.77
1977-78	5,561	-661	-10.45
1978-79	5,220	-441	-7.79
1979-80	4,846	-374	-7.16
1980-81	4,677	-169	-3.48
1981-82	4,517	-160	-3.42
1982-83	4,305	-212	-4.69
1983-84	4,114	-191	-4.43
1984-85	3,880	-234	-5.68
1985-1986	3,812	- 68	-1.75
1986-1987	3,747	- 65	-1.71
1987-1988	3,785	+ 38	+1.01
1988-1989	3,860	+ 75	+1.98
1989-1990	4,015	+155	+4.02
1990-1991	4,266	+251	+6.25
1991-1992	4,570	+304	+7.13

Source: Redondo Beach City School District, September, 1991

In response to evolving local demographic and economic trends, local primary school enrollment in the City of Redondo Beach experienced two distinct patterns:

- (1) In the eleven school year period from 1974 to 1985, local primary school enrollment dropped from a high of 7,678 students to a low of 3,880 students, a dramatic 49.5 percent decline (averaging a decrease of 3,798 total students, or approximately 345 students [4.5 percent] per year). This radical change in enrollment, combined with related school funding changes, caused the school district to consolidate a number of their facilities and actually close seven of them (see detailed information on the closed facilities and their present use described below).
- (2) In the eight school year period from 1985 to 1992, local primary school enrollment climbed from a low of 3,880 students to the 4,488 students presently enrolled in the system, a marked 17.8 percent increase (averaging an increase of 690 total students, or approximately 86 students [2.2 percent] per year). Because the capacities of the exiting elementary school facilities are able to successfully

accommodate these numbers of students, no major facility modifications (i.e., additions or construction of new school buildings) have recently been made.

Because of the significant decline in primary school enrollment during the 1970's and most of the 1980's, the Redondo Beach City School District was forced to take measures to consolidate and reorganize a number of schools. This resulted in the closure of seven different school facilities, including: the Cleveland, Andrews, Edison, Franklin, Fulton, McCandless and Patterson schools.

The Cleveland School was sold and redeveloped for commercial purposes (it had occupied the site of the existing Lucky Supermarket, located within the King Harbor/Miller's Outpost Shopping Center, due south of the intersection of Pacific Coast Highway and North Catalina Avenue. The Andrews School, located due east of the intersection of Aviation Boulevard and Artesia Boulevard, has been redeveloped into senior citizen affordable housing, with future plans for retail commercial development along the Artesia Boulevard frontage. The Edison School, located at the southwestern intersection of Manhattan Beach Boulevard and Inglewood Avenue, has been leased to the Los Angeles County Office of Education for use as a special educational facility.

The Franklin School, located at the northeastern intersection of Inglewood Avenue and Fisk Lane, has been leased to the City of Redondo Beach who subleases the facility to the Coast Christian Schools for operation as a private school. The Fulton School, located at the southeastern intersection of Rindge Lane and Ripley Avenue, is presently leased to the Coast Christian Schools, for operation as a day care facility and elementary school.

The McCandless School site, located at the northeastern intersection of Garnet Street and Pacific Coast Highway, is presently being advertised as a senior residential and/or commercial development site; proposals from developers to undertake the project are currently being considered by the Redondo Beach City School District. The Patterson School, located at the southwestern intersection of Knob Hill Avenue and Pacific Coast Highway, is leased to the City of Redondo Beach, and has been converted into a multi-purpose community center, administrative office, and historical museum.

Local Primary School Enrollment Projections

Because of the extreme difficulty experienced in accurately predicting the various quixotic demographic and economic factors which directly and indirectly impact regional and local school enrollment patterns, it is almost impossible for the local school district to make any specific student enrollment projections for the future with which they have a great deal of confidence. The district does, however, foresee the slight increases recently experienced in local primary school enrollment continuing at similar rates for the next three to five years.

Therefore, if the 2.2 percent annual growth rate experienced over the last seven years were to continue for the next 5 years (1992-1997), total primary school enrollment would increase from the existing 4,570 students (64.8 percent of overall capacity) to 5,095 students [72.3 percent of overall capacity], generating an increase of 525 total students, or 11.5 percent, equaling an annual increase of approximately 105 total students per year.

Secondary Schools

The provision of local public secondary education services in the community (grades 9 through 12) is under the jurisdiction of the South Bay Union High School District, an independent local school district formed and operated in accordance with state law. In addition to the City of Redondo Beach, the district is responsible for providing public secondary education to two other communities in the South Bay region (the City of Hermosa Beach and the City of Manhattan Beach). The district as a whole operates and maintains three different facilities, with a total capacity of approximately 5,800 students.

The facilities include: 1) Redondo Union High School, located at the intersection of Pacific Coast Highway and Diamond Street in South Redondo Beach, with a capacity of approximately 3,000 students; 2) Mira Costa High School, located at the intersection of Artesia Boulevard and Peck Avenue in the southeastern portion of the City of Manhattan Beach (due north of the City of Redondo Beach municipal boundary near the Wylie/Steinhart sump, with a capacity of approximately 2,500 students; and 3) Pacific Shores Continuation High School, located at the intersection of Peck Avenue and Curtis Avenue in the southeastern portion of the City of Manhattan Beach, with a capacity of approximately 300 students.

Total student enrollment in the district for the 1991-1992 school year is estimated at approximately 3,300 students (or 56.9 percent of capacity). Redondo Union High School enrollment totals approximately 1,600 students (53.3 percent of capacity); Mira Costa High School enrollment totals approximately 1,550 students (62.0 percent of capacity) and Pacific Shores Continuation High School enrollment totals approximately 150 students (50.0 percent of capacity).

Assignments to the schools are determined geographically, in the City of Redondo Beach this essentially translates into all students residing north of Artesia Boulevard attending Mira Costa High School, and all students residing south of Artesia Boulevard attending Redondo Union High School.

Similar historical declines in student enrollment have occurred during the last several years in the local secondary school system, although at a comparatively lower rate of decline than had been experienced in the primary school population. This resulted in the closure of the former Aviation High School facility, located at

the northeastern intersection of Aviation Boulevard and Manhattan Beach Boulevard, in June of 1982. The majority of the site was sold for development purposes, and currently houses a small business park. A total of 11.2 acres of the site was leased to the City of Redondo Beach for community and public recreational purposes, including the former football field and track facility, swimming pool, gymnasium, and 1,500-seat auditorium. The 3 acre parcel, located at the corner of Manhattan Beach Boulevard and Aviation Boulevard, was purchased by the City of Redondo Beach for parking purposes.

Existing student enrollment totals for the South Bay Union High School District are indicated below:

1991 Student Enrollment, South Bay Union High School District

<u>Name</u>	<u>Grade Level</u>	<u>Site Acreage</u>	<u>Pupil Capacity*</u>	<u>Current Enrollment</u>
Redondo	9-12	49.0	3,000	1,600 (53.3%)
Mira Costa	9-12	43.0	2,500	1,550 (62.0%)
Pacific Shores	n/a	10.0	300	150 (50.0%)
Total 9-12 Grades	9-12	102.0	5,800 (100%)	3,300 (56.9%)

Source: South Bay Union High School District, September, 1991

Future high school student enrollment figures estimated by the district for the system over the next five years project a slight but steady increase in enrollment, averaging approximately fifty students per year (the actual results will be heavily influenced by local economic conditions and demographic trends).

Projected Student Enrollment, South Bay Union High School District (1992-1997)

<u>Year</u>	<u>Projected Enrollment</u>	<u>Percentage of Increase</u>
1991-1992	3,300	n/a
1992-1993	3,350	+1.52%
1993-1994	3,400	+1.49%
1994-1995	3,450	+1.47%
1995-1996	3,500	+1.45%
1996-1997	3,550	+1.43%

Source: South Bay Union High School District, September, 1991

Future Community Population

The population of Redondo Beach, both in total numbers and in age group composition, has been changing significantly. Total population in the year 2010 is projected at a total of approximately 71,066. This represents an increase of approximately 10,899 people (or 18.11 percent) from the 1990 population total of

60,167. Existing population totals (in 1990) reveal that approximately 80% of the total resident population is over the age of 18 and approximately 45% of the total resident population is over the age of 35. These figures reflect the City's aging population, an important reason correlated to the observed decline in the number of school age children.

These figures are projected to assume that a full buildout of the maximum land use and building densities allowed on every parcel in the City under the General Plan were to be achieved; a buildout of approximately one-half of the maximum potential future density is a more realistic consideration, which would increase the local population in 2010 to approximately 65,000 to 68,000 people.

Existing (1990) and maximum projected (year 2010) population totals for the four different local Recreation Planning Areas have been determined. These are described and explained in detail in the projected local recreational and parkland needs portion of this section.

Recreational Needs Survey

As part of the program to update the Recreation and Parks Element, a recreation needs survey was conducted in 1985, to help define trends in recreation needs and to show current use characteristics of existing facilities. Two groups of residents were surveyed, consisting of 200 In-Home survey samples and 200 In-Park survey samples.

The In-Home survey sample was used as a control group. Several focus group meetings were held to help develop a questionnaire which focused on the specific issues within the city. The questionnaire was then pre-tested before the survey was conducted. After the survey was completed, the sample was compared with census data to assure an accurate survey sample. The significant conclusions of the recreation needs survey are listed below:

- Most households surveyed do not use the full variety of developed recreation facilities now present in Redondo Beach.
- Regardless of the recreation attraction and apparent mobility, residents generally use the recreation opportunity nearest their residence.
- Use patterns for Redondo State Beach are atypical from other city parks. The State Beach is the most popular recreation attraction in the City, used by a majority of residents.
- The two most popular areas in the city are Redondo State Beach and Veterans Park. Veterans Park is probably used due to its proximity to the beach and King Harbor, and due to the library and senior center.

- Hopkins Wilderness Park is an extremely popular destination, but is not a common repeat experience. The park rates high in visitation rates from one to five times per year but is last in visitation rates of over five times per year.
- The sixteen different Parkettes are predominantly used only by neighborhood children.
- Dominguez Park is the least popular park surveyed in the City. Up to 69% of those surveyed did not go to the park at all in the past year. This is apparently due in part to the lack of developed facilities.
- Alta Vista, Anderson, Hopkins Wilderness, and Veterans Parks attract more adults than other recreation areas. This appears to be due to the type of facilities provided.
- The top five adult activities which are significantly above the sample average are: power boating, sailing, nature appreciation, visiting scenic areas, and visiting historical and cultural sites/events.
- The top five activities preferred by teenagers include: board surfing, ocean swimming, pool swimming, roller-skating, and basketball.
- The top five general activities of children include: Ocean swimming, pool swimming, softball/baseball, other organized field sports and roller-skating.
- The most desired facilities cited by a majority of both In-House and In-Park surveys include:

<ol style="list-style-type: none"> 1. Swimming Pools 2. Bicycle Trails/Paths 3. Picnic Areas 	<ol style="list-style-type: none"> 4. Tot Lots 5. Playgrounds (all children ages) 6. Additional Parking
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- The most popular activities of all age groups in the In-House Survey are ranked as follows:

<ol style="list-style-type: none"> 1. Walking 2. Ocean Swimming 3. Picnicking 	<ol style="list-style-type: none"> 4. Sunning 5. Pool Swimming 6. Visiting Scenic Areas
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- The most desired facility in the City in both survey samples is a swimming pool (up to 69.5% response rate). There is no currently available public pool in the City, except at Redondo Union High School, which is operated by the South Bay Union High School District for reservation use only. The former Aviation High School site, which has been leased by the City of Redondo

Beach for community and public recreational use, included a pool which had to be dismantled because of its extreme state of disrepair and unsafe structural conditions.

- Closeness to home and a desire to be out of doors are the chief reasons for people in using parks. This is consistent with actual park use patterns. The three most cited reasons for using parks do not relate to group interaction but rather relate to the open space qualities of parks and the relief that they afford from congestion and urban development.
- There are no salient reasons that a clear majority of the survey sample cited why parks are not used.
- At a minimum, there is a clear expression of need for maintaining the status quo or more desirably, providing additional open space in the city.
- Parkettes should remain as public spaces.
- Both survey samples were indecisive about the need for additional sports fields. Additional ballfields ranked lower out of a list of 26 choices, even in the In-Park sample which could be expected to rate the need for more ballfields higher given the timing of the survey. Football/soccer fields were ranked 26th (last in the In-House sample and 24th in the In-Park Survey).

Existing City Recreation and Parks Resources

One of the primary objectives of the local park system over the past few decades has been to acquire and develop open space that has become available (reactive planning), rather than anticipating specific acreage needs within specific areas of the city (proactive planning). This has resulted in the acquisition and/or creation of numerous small one-lot parkettes (for example), all generally clustered in one portion of the City (North Redondo Beach). Acquiring larger sites has been difficult due to the existing built-out nature and historic development pattern of the City. However, given previous budgetary constraints, the City's acquisition of additional parkland is still to be commended.

Over the past dozen years, the park system has significantly matured, and numerous acreage and facility improvements have been made. To accomplish this goal, the City of Redondo Beach has relied heavily upon the local School Districts to assist it provide new ballfields, classroom space, and park expansion. In reality, if there were no cooperation with the local School Districts, or there were no school sites, the park system would not have many places to expand. Anderson Park and Alta Vista Park are examples of new facilities intelligently planned in cooperation with the local School District.

Other City-used facilities on local School District property including ballfields at Parras (former Hillcrest) and Adams/Washington Schools and tennis courts at Redondo Union High School, show a wise and economical use of public lands. Ballfields and courts have been lighted throughout the City, and new, modern softball and baseball fields have been built. Three senior centers have also been created, and tot lots have been added in several locations. Through these resources and facilities, the City is now able to offer a wider range of recreational programs and classes for all age groups.

However, due to the changing demographics of the community and additional funding remaining a major obstacle, new priorities need to be established with respect to new recreation and park development and open space enhancement. The City of Redondo Beach should first respond to the immediate planning and facility needs of the community, and should complement its existing developed and undeveloped park system. Recreation Area 2 (the southern half of North Redondo Beach) should receive the highest priority. However, Area 1 (the northern half of North Redondo Beach) should also be considered a priority area due to continued population growth and development in the area, the poor proximity of the former Aviation High School site to a majority of Area 1 residents, and the current transitional use of the site.

A longer-range plan should be developed to meet the future needs of City residents through developing new facilities and expanding existing ones which respond to the community's changing demographic profile.

New sources of funding which do not rely upon Federal or State grants will be required. This will require the City to become more creative in the way it funds the acquisition and improvement of parkland. Continued cooperation with the local school districts will remain essential if the park system is to adequately meet the recreation and open space needs of residents.

Existing City-Wide Public Recreation and Parkland Facility Inventory

The City of Redondo Beach presently contains a total of thirty-seven (37) different public parkland and recreation sites, occupying approximately 180.21 acres (0.28 square miles) of land, representing approximately 4.5 percent of all land area in the City. The following table (Table 47) lists and totals the existing recreation and open space resources for the four geographic recreation areas within the City of Redondo Beach.

The City of Redondo Beach Recreation and Parks Department currently directly oversees a recreation and parkland system of thirty-two (32) public recreation facilities totaling approximately 121.51 acres, approximately 67 percent of all recreation and parkland in the City (and approximately 3.1 percent of all land area in the City).

TABLE 47

City of Redondo Beach
Existing Parkland and Open Space Inventory

NAME OF PARK OR OPEN SPACE AREA	RECREATION PLANNING AREA	INDIVIDUAL PARK OR OPEN SPACE AREA SIZE IN ACRES	TOTAL CATEGORY SIZE IN ACRES
REGIONAL PARKS			38.64A
Moonstone Park	3	1.64A	
Veterans Park	4	6.30A	
Wilderness Park	4	11.00A	
Seaside Lagoon	3	3.60A	
Czuleger Park	3	2.10A	
Aviation Park	1	14.00A	
COMMUNITY PARKS			59.34A
Vista Alta Viata Park	4	19.42A	
Glenn Anderson Park	1	12.04A	
Dominguez Park	3	23.75A	
Perry Park	2	4.13A	
NEIGHBORHOOD PARKS			10.88A
Dale Page Park	1	1.00A	
Fulton Playfield	2	1.25A	
Perry Allison Playfield	3	0.51A	
Franklin Park	2	6.60A	
Lilienthal Park	2	1.52A	
PARKETTES			4.47A
Parkette Sites (16 Total)	1, 2, 3, 4	4.47A	
BEAUTIFIED EDISON ROW			14.78A
City Maintained (turfed)	1, 2	14.78A	
JOINT USE FACILITIES (CITY-SCHOOL)			15.90A
Washington/Adams Schools	2	8.60A	
Redondo Union High School	3	2.90A	
Parras (Hillcrest) Middle School	3	4.40A	
STATE FACILITIES			36.20A
Redondo State Beach	4	36.20A	
TOTAL			180.21A

Source: City of Redondo Beach Recreation and Parks Department, 1991.

In addition to the City of Redondo Beach Recreation and Parks department facilities, the County of Los Angeles oversees and maintains the 36.2-acre Redondo State Beach (approximately 20 percent of all recreation and parkland in the City), and the City of Redondo Beach and local school districts oversee and maintain 22.5 acres of facilities (at 4 existing school properties) under a joint-use arrangement (representing approximately 13 percent of all recreation and parkland in the City).

The City of Redondo Beach Recreation and Parks Department parkland system is comprised of fourteen different (14) parks, occupying 91.26 total acres; sixteen (16) parkettes, occupying 4.47 total acres; beautified utility rights-of-way, occupying 14.78 total acres; and one recreation center, occupying 11.0 total acres.

The City of Redondo Beach Recreation and Parks Department parkland system has been broken down into seven different categories or types, including: Regional Parks (6 facilities, occupying approximately 27.64 total acres); Community Parks (4 facilities, occupying approximately 59.34 acres); Neighborhood Parks (4 facilities, occupying approximately 4.28 total acres) Parkettes (16 facilities, occupying approximately 4.47 total acres); Beautified (turfed) Southern California Edison Company rights-of-way (occupying approximately 14.78 total acres); and the Aviation High School recreation center (occupying approximately 11.0 acres). The four city-school district joint use facilities (occupying approximately 22.5 total acres) should also be considered part of this system.

The table also indicates that in 1990, with an estimated population of 60,167, the City of Redondo Beach had an overall recreation and open space acreage total of approximately 180.21 acres. This total is equivalent to a ratio of 2.995 acres of existing open space for every 1,000 residents in the City.

Existing Public Recreation and Parkland Inventory by Recreation Planning Areas

An examination of the existing open space totals and existing resident populations of each of the four geographic recreation planning areas reveals a range of useful information and a number of interesting trends relative to recreation and parks planning.

Recreation Planning Area One: This portion of the community contains a total of five and one-half recreation and parkland facilities, totaling approximately 36.02 acres (representing approximately 19.9 percent of all public open space in the community) [approximately half of the Southern California Edison Company turf right-of-way is located in Recreation Planning Area One, the other half is located in Area Two]. In 1990, the area contained a total of 5,266 housing units and 12,456 residents [representing approximately 20.7 percent of the city's existing population]. These numbers generate a planning area ratio of 2.89 acres of public open space for every 1,000 residents (approximately 3.5 percent less than the City-wide average of 2.995 acres per 1,000 residents). The primary facilities in this area include the Glenn

Anderson Park (12.04 acres), the former Aviation High School recreation center (11.0 acres), and approximately 50 percent of the beautified Southern California Edison Company right-of-way.

Recreation Planning Area Two: This portion of the community contains a total of seventeen and one-half recreation and parkland facilities, totaling approximately 30.87 acres (representing approximately 17.1 percent of all public open space in the community) [approximately half of the Southern California Edison Company turfed right-of-way is located in Recreation Planning Area One, the other half is located in Area Two]. In 1990, the area contained a total of 9,099 housing units and 21,508 residents [representing approximately 35.8 percent of the City's existing population]. These numbers generate a planning area ratio of 1.44 acres of public open space for every 1,000 residents (approximately 51.9 percent less than the City-wide average of 2.995 acres per 1,000 residents). The primary facilities in this area include Perry Park (4.13 acres) the Washington/Adams School joint use site (8.60 acres), the Franklin School/Park (6.60 acres), and twelve of the sixteen parkettes in the City (totaling 2.86 acres).

Recreation Planning Area Three: This portion of the community contains a total of eight recreation and parkland facilities, totaling approximately 39.98 acres (representing approximately 22.3 percent of all public open space in the community). In 1990, the area contained a total of 4,734 housing units and 11,176 residents [representing approximately 18.6 percent of the City's existing population].

These numbers generate a planning area ratio of 3.58 acres of public open space for every 1,000 residents (approximately 19.5 percent greater than the City-wide average of 2.995 acres per 1,000 residents). The primary facilities in this area include Dominguez Park (23.75 acres), the Parras [formerly the Hillcrest] School joint use site (4.40 acres), and Seaside Lagoon (3.60 acres).

Recreation Planning Area Four: This portion of the community contains a total of six recreation and parkland facilities, totaling approximately 73.34 acres (representing approximately 40.7 percent of all public open space in the community). In 1990, the area contained a total of 9,121 housing units and 15,027 residents [representing approximately 24.9 percent of the City's existing population]. These numbers generate a planning area ratio of 4.88 acres of public open space for every 1,000 residents (approximately 62.9 percent greater than the City-wide average of 2.995 acres per 1,000 residents). The primary facilities in this area include Redondo State Beach (36.2 acres), Alta Vista Park (19.42 acres), Wilderness Park (11.0 acres), and Veteran's Park (6.30 acres).

The presence of Redondo State Beach within this Recreation Planning Area Four (comprising almost 50 percent of the total open space in the planning area and approximately 20 percent of all public open space in the entire City) serves to significantly skew the data, and should be taken into consideration while examining

this information. If the beach acreage were to be eliminated, the total acreage figures for the four different Recreation Planning Areas would be almost identical: Area 1 [36.02 acres, 25.0 percent]; Area 2 [30.87 acres, 21.4 percent]; Area 3 [39.98 acres, 27.8 percent]; and Area 4 [37.14 acres, 25.8 percent].

Projected Public Recreation and Parkland Facility Needs

An analysis of the total numbers of potential housing units that will be allowed to be constructed in the four separate Recreation Planning Areas during the life of the updated General Plan (and resultant additional resident population) will assist in future recreation and park planning and policy-making.

In a manner similar to the population projections discussed earlier in this section, these projected future housing unit figures represent the maximum number of additional units that could be developed in the City of every residentially-zoned parcel in the community were to be built out to the absolute maximum allowed under the Land Use Plan of the updated General Plan.

These are provided for planning and environmental analysis and review purposes (as required by State Law); the actual future residential and commercial development buildout experienced in the community will probably total approximately one-half of these estimates.

Recreation Planning Area One: A total of approximately 836 new housing units could be developed within Recreation Planning Area One under a maximum buildout of the Land Use Plan contained within the updated General Plan, increasing the total number of housing units in the area by approximately 16 percent (from 5,266 units to 6,102 units). Based on an application of the existing local population per dwelling unit ratio of 2.1321 persons per unit, these new housing units would increase the resident population in the area by approximately 1,782 persons or 14.3 percent (from 12,456 persons to 14,238 persons).

Recreation Planning Area Two: A total of approximately 1,521 new housing units could be developed within Recreation Planning Area Two under a maximum buildout of the Land Use Plan contained within the updated General Plan, increasing the total number of housing units in the area by approximately 17 percent (from 9,099 units to 10,620 units). Based on an application of the existing local population per dwelling unit ratio of 2.1321 persons per unit, these new housing units would increase the resident population in the area by approximately 3,243 persons or 15.1 percent (from 21,508 persons to 24,751 persons).

Recreation Planning Area Three: A total of approximately 1,161 new housing units could be developed within Recreation Planning Area Three under a maximum buildout of the Land Use Plan contained within the updated General Plan, increasing the total number of housing units in the area by approximately 25 percent

(from 4,734 units to 5,895 units). Based on an application of the existing local population per dwelling unit ratio of 2.1321 persons per unit, these new housing units would increase the resident population in the area by approximately 2,475 persons or 22.2 percent (from 11,176 persons to 13,651 persons).

Recreation Planning Area Four: A total of approximately 1,295 new housing units could be developed within Recreation Planning Area Four under a maximum buildout of the Land Use Plan contained within the updated General Plan, increasing the total number of housing units in the area by approximately 14 percent (from 9,121 units to 10,416 units). Based on an application of the existing local population per dwelling unit ratio of 2.1321 persons per unit, these new housing units would increase the resident population in the area by approximately 2,761 persons or 18.4 percent (from 15,027 persons to 17,788 persons).

City-wide, a total of approximately 4,813 new housing units could be developed within the entire City under a maximum buildout of the Land Use Plan contained within the updated General Plan, increasing the total number of housing units in the community (unadjusted for a loss of potential units by a conversion of existing non-conforming residential units to conforming commercial uses) by approximately 17.1 percent (from 28,220 units to 33,033 units). Based on an application of the existing local population per dwelling unit ratio of 2.1321 persons per household, these new housing units would increase the total resident population in the community by approximately 10,262 persons or 17.1 percent (from 60,167 persons to 70,429 persons).

Hence, if no additional public recreation and parkland is created or acquired during this buildout, the existing City-wide ratio of 2.995 acres of public open space per 1,000 persons could drop by approximately 14.6 percent (to 2.559 acres per 1,000 residents). The Recreation Area One ratio could drop by approximately 12.5 percent (from 2.89 acres per 1,000 residents to 2.53 acres per 1,000 residents); the Recreation Area Two ratio could drop by approximately 13.2 percent (from 1.44 acres per 1,000 residents to 1.25 acres per 1,000 residents); the Recreation Area Three ratio could drop by approximately 18.2 percent (from 3.58 acres per 1,000 residents to 2.93 acres per 1,000 residents); and the Recreation Area Four ratio could drop by approximately 15.6 percent (from 4.88 acres per thousand residents to 4.12 acres per thousand residents).

To simply remain at the existing ratio of 2.995 acres of public recreation and parkland per 1,000 residents through the full buildout of the updated General Plan (to the year 2010), the City of Redondo Beach would need to create or acquire an additional 30.72 acres of public parkland, increasing the total amount of public recreation and parkland in the City by 17.1 percent (from 180.21 acres to 210.93 total acres). Recommendations and policies leading to the achievement of this basic objective are discussed later in this section.

Descriptions of Existing Local Public Recreation and Parkland Facilities

A. Regional Parks

Regional parks in the City of Redondo Beach do not meet typical definitions for regional parks; these facilities are usually defined as large open space areas (50 acres or more) which make provisions for recreational and leisure time activities for the general public. The general public would include City (local) as well as County (regional) residents. These facilities typically include golf courses, beaches or lakes, wildlife habitat, trails, picnicking and camping. In coastal Los Angeles County, beaches typically represent the only regional park resource. In the case of Redondo Beach, the State Beach is the nearest regional resource, and is operated by the County of Los Angeles.

Because of their use by residents as well as non-residents, however, smaller local recreational facilities in the City of Redondo Beach have been classified as regional facilities. The City contains six of these facilities (five in South Redondo Beach and one in North Redondo Beach), totaling 27.64 acres of land area (15.3 percent of all public parkland in the City), including Czuleger Park (formerly Plaza Park); Seaside Lagoon; Hopkins Wilderness Park; Veterans Park; Aviation Park and Moonstone Park (presently undeveloped). In terms of also meeting local, neighborhood or community park needs, Veterans Park and Czuleger Park serve a dual role.

Czuleger Park: Czuleger Park (formerly Plaza Park) is a 2.1 acre park located due west of the intersection of North Catalina Avenue and Carnelian Street, within the "Village" high-density residential development in South Redondo Beach.

The park is for passive recreation use and includes greenspace, vista points of the ocean and provides east to west pedestrian access to the harbor area.

Veterans Park: Veterans Park is a 6.3 acre park, located at the intersection of North Catalina Avenue and Torrance Boulevard in South Redondo Beach. This regional park serves passive uses, including picnicking, greenspace, band shell, and views of the ocean. Also located at the park is a senior center and the former public library (which is currently being considered for future public uses). The park is adjacent to Redondo State Beach and King Harbor. Concerts and other outdoor events are programmed at the park by the City of Redondo Beach. During peak weekends and in the summer, Veterans Park is heavily used by non-residents. Residents tend to use the park at other times. The park is ranked first of all parks in the community for visitations in the one to five times per year category, primarily by adults.

Seaside Lagoon: Seaside Lagoon, located south of Portofino Way, due west of its intersection with Harbor Drive in South Redondo Beach, is a 3.6 acre-sized regional facility. The park has a saltwater swim lagoon open during the summer and a sand beach. A food concession is located at the park. There is also volleyball, child play

area and picnicking area. The park's attendance is a mix of resident and non-resident use. Swim classes and other special events such as volleyball tournaments are held here. The City of Redondo Beach also runs the highly-successful "Breakwater" summer day camp for 6-12 year old children at this site. Plans are presently underway through the City Recreation and Parks Department to renovate and modernize this facility.

Hopkins Wilderness Park: Hopkins Wilderness Park is a unique regional-passive park, located at the intersection of Camino Real and Knob Hill Avenue in South Redondo Beach. The 11.0 acre-sized park is truly a unique open space-nature education center, which has overnight and day camping, picnicking, and nature study, and an amphitheater facility. The park formerly housed the offices of the City of Redondo Beach Recreation and Parks Department. Reservations are required for use, and the park closes after 4:30 p.m. Many youth groups come to the park for nature and outdoor skills education. Wilderness Park ranks high in resident visitations in the one to five times per year category. The site offers a panoramic view of the entire South Bay area.

Moonstone Park: Moonstone Park is a 1.64 acre-sized facility, located at the southwestern end of Mole B within King Harbor (at the northern end of Harbor Basin 2) in South Redondo Beach. Improvements to formalize and upgrade this site are currently planned, in order to provide a transient boat slip and dock and turfed passive open space. The local Harbor Master's office also occupies this area.

B. Community Parks

Community parks typically serve several residential neighborhoods, and may also serve between 10,000 and 15,000 people per year. Because they require a large site, their location in urban areas is often determined by the availability of land, rather than precise demographic and locational planning. Outdoor and indoor facilities are provided to meet a wide range of recreation interests and needs for all age groups. Minimum facility size is typically recommended to be approximately 20 acres. Service area radii should be approximately one-half mile or more, with facilities serving multiple neighborhoods. Community parks typically have pools, tennis courts, multi-use ballfields, community recreation centers and passive use areas.

The City contains four of these facilities (two in South Redondo Beach and two in North Redondo Beach), totaling 59.34 acres of land area (32.9 percent of all public parkland in the City), including: Alta Vista Park; Glenn Anderson Park; Dominguez Park; and Perry Park.

Alta Vista Park: This facility contains a combination of public and local School District property, totaling 19.42 acres. The park is located at the intersection of Camino Real and North Prospect Avenue in South Redondo Beach. The park is

primarily an active use facility and is widely used by adults. It contains a lighted tennis complex, indoor racquetball courts, lighted multi-purpose sports fields and football/soccer field, children's playground, small picnic area, and passive open space. A community recreation center proposed for the park has not yet been constructed.

Glenn Anderson Park: Glenn Anderson Park is a 12.04 acre-sized facility, located between Rindge and Vail Avenues in North Redondo Beach, containing a combination of City of Redondo Beach and Redondo Beach City School District property. The facility is primarily an active use facility with multi-use tennis/basketball courts, lighted multi-purpose sports fields and football/soccer field, children's playground, small picnic area, greenspace and a senior center. A portable recreation building and scout house is also found at the park. A portion of the park, originally planned as a community recreation building, remains underdeveloped. Parking is limited during peak use periods.

Dominguez Park: Dominguez Park is a 23.75 acre-sized facility, located at the intersection of 190th Street and Prospect Avenue in South Redondo Beach, containing a combination of City of Redondo Beachland and Southern California Edison Company right-of-way area. The site was originally a landfill and has soil compaction and stability problems. Due to its hilltop location, the facility is also often very windy. Existing facilities include a softball field, basketball courts, playground area, small picnic area, a portable recreation building, and a court for the location of relocated local historic structures.

Recently completed soil studies are presently being reviewed, to determine if the site can be further developed and if soil stability problems can be resolved. The park site receives limited resident use due to the lack of developed facilities. Renovation plans for this facility are presently being developed and refined by the City of Redondo Beach.

Perry Park: Perry Park is a small community park, totaling 4.13 acres in size, located at the intersection of Grant Avenue and Slauson Lane in North Redondo Beach. Existing facilities at the site include multi-use lighted volleyball/basketball courts, multi-purpose lighted sportsfield, playground area, picnic area, senior center, and a small multi-purpose building with an assembly area. Parking is limited during peak use periods. Concepts to improve the existing multi-purpose community building have been under review by the City.

C. Neighborhood Parks

The neighborhood park system is one of the most important components of a local recreation and park system because these facilities provide needed neighborhood open space and places for children and others to play within walking distance of the residential areas that they are intended to serve. When the percentage of children in the population drops, as in recent times in the Redondo Beach, the need for children's playgrounds is diminished. The need for "greenspace" however, remains high, particularly in urbanized areas. When centralization can be achieved, these

parks should adjoin public schools as an extension of the school grounds. Neighborhood parks are typically five to ten acres in size. The size of Redondo Beach's neighborhood parks are much smaller than this industry standard. Service radii for these facilities should not exceed one-quarter mile. Facilities typically include tot lots, facilities for adults who supervise children, a playfield, limited picnic/barbecue areas, and other facilities desired by the local neighborhood.

The City contains twenty-one of these facilities (five formal parks or playfields) [four in North Redondo Beach and one in South Redondo Beach], and sixteen "parkettes" [thirteen in North Redondo Beach and three in South Redondo Beach]. The twenty-one facilities total 15.35 acres of land area [10.88 acres in parks or playfields and 4.47 acres in "parkettes" (representing 8.5 percent of all public parkland in the City). The facilities include: Dale Page Park, Fulton Playfield, Perry Allison Park, Lilienthal Park, Franklin Park and the sixteen "parkettes" scattered throughout the community (see list below).

Dale Page Park. Dale Page Park is a 1.0 acre-sized park located within the Southern California Edison Company right-of-way at its intersection with Robinson Street in North Redondo Beach. The park contains a basketball court, children's play apparatus, picnic tables and greenspace. The turfed portion of the right-of-way extends south of the park.

Fulton Playfield. Fulton Playfield is 1.25 acre-sized area of greenspace located adjacent to the surplus Fulton School site at the intersection of Earle Street and Ripley Avenue in North Redondo Beach. The playfield is on a lower level than the school site and contains a softball field and picnic area. The site is used for informal sports activities.

Perry Allison Playfield. Perry Allison Playfield is a 0.51 acre-sized facility, located at the intersection of Blossom Lane and 190th Street, near Dominguez Park, at the southern edge of North Redondo Beach. The site is relatively narrow and is used for informal sports activities.

Lilienthal Park: Lilienthal Park is a 0.82 acre-sized facility, located at the southern terminus of Lilienthal Lane, between Pruitt Drive and Phelan Lane (due north of 190th Street), at the southern edge of North Redondo Beach. Lilienthal Park is the newest local public open space facility, and includes turfed areas used for passive recreation, several sitting and gathering places, and decorative landscaping.

Franklin Park: Franklin Park is a 6.60 acre-sized facility, located at the southwest intersection of Inglewood Avenue and Ralston Lane in the southeastern portion of North Redondo Beach. This former school site is under a 99-year lease to the City of Redondo Beach, and includes a tot lot, shuffle-board courts, basketball half-courts, and green space. The buildings on the site are currently leased to a private school. The future use of the buildings is undetermined at this time. The eastern portion of the site is currently zoned for parks and open space, the western portion is zoned for school-facility.

Parkettes. There are a series of sixteen small, one or two lot-sized, "parkettes" existing in the City, ten of which are located in Recreation Planning Area 2 in North Redondo Beach. The total acreage for the sixteen parkettes (also called mini-parks or vest pocket parks) is 4.47 acres, generating an average size of approximately 12,170 square feet [0.28 acres] each. Fourteen of the parkettes contain passive uses including a tot lot and/or picnic table for family-oriented use. Two of the parkettes have more active use and include a basketball court. The names and acreages of the specific facilities are as follows:

<u>Parkettes</u>	<u>Use Orientation</u>	<u>Acreage</u>
Andrews	Passive Use	0.79 acres
Beverly	Passive Use	0.17 acres
Ensenada	Passive Use	0.17 acres
Ford	Passive Use	0.07 acres
General Eaton (2)	Passive and Active Halves	0.51 acres
Gregg	Passive Use	0.34 acres
Huntington	Passive Use	0.17 acres
La Paz	Passive Use	0.17 acres
Massena	Passive Use	0.17 acres
Matthews	Passive Use	0.17 acres
McNeil	Passive Use	0.17 acres
Riviera	Passive Use	0.25 acres
Sneary	Passive Use	0.07 acres
Townsend	Passive Use	0.17 acres
Vincent	Passive Use	1.08 acres

D. Aviation Recreation Center (former Aviation High School Site)

In 1984, the City leased 11.2 acres of the former Aviation High School site from the South Bay Union High School District on a 99-year lease term basis. The site contains surplus District recreation facilities located at the intersection of Aviation Boulevard and Manhattan Beach Boulevard in North Redondo Beach. The City has also purchased 3.0 acres for parking purposes at the site.

Restored and in use recreation facilities at the site include a 4,000-seat track and football stadium, a 2,000-seat gymnasium, and a 1,500-seat auditorium. The swimming pool which formerly occupied the site had to be demolished, due to its deteriorated conditions (much of which was caused by termite damage).

While having great potential as a community recreation facility, the site does not yet fulfill the needs of local residents, and is not ideally located to serve them, due to its lack of proximity to housing areas, and its location at two arterial streets with high traffic levels.

The ultimate design, operation and management of the site is presently under study by the City of Redondo Beach, particularly with regard to the eventual use and

operation of the auditorium and any potential concessionaire or commercial recreation options that may be generated on the site.

E. Joint-Use Recreation Facilities

Joint-use facilities of the City of Redondo Beach, South Bay Union High School District and Redondo Beach City School District, totaling approximately 15.4 acres in size (representing approximately 8.5 percent of all recreation and parkland in the City), are located at three different school sites across the community.

The recreational or parkland components of these three facilities include: 1) the Parras (formerly Hillcrest) School; 2) Redondo Union High School; and 3) Washington and Adams School. On these school sites, the City has developed recreation facilities available for after-hours public use, primarily for youth sports leagues. The specific details of these facilities include:

Parras School.

Parras (formerly the Hillcrest) School, totaling 4.40 acres, is located at the intersection of North Prospect Avenue and Vincent Street in South Redondo Beach, and containing a sportfield and court area. There are also lighted football/soccer field and lighted basketball courts at the site.

Redondo Union High School.

Redondo Union High School, totaling 2.90 acres (including the joint use portion only), is located at the intersection of North Prospect Avenue and Vincent Street in South Redondo Beach. A baseball field and tennis courts occupy this open space area at the high school. Use of these facilities is controlled by the High School District, primarily through reservations; general public use is limited.

Washington/Adams School Complex

The Washington and Adams School complex, totaling 8.60 acres (including the joint use portion only), is located at the intersection of Ripley Avenue, Inglewood Avenue, and Lilienthal Lane in North Redondo Beach. The City of Redondo Beach has developed a lighted football/soccer field at the Washington School. At the Adams School, the City of Redondo Beach has built a multi-purpose lighted baseball field and football/soccer field, and multi-purpose lighted tennis and basketball courts.

F. Southern California Edison Company Rights-of-Way

Due to the presence of the Southern California Edison Company Electricity Plant in South Redondo Beach, there are a number of utility rights-of-way running through the community. These are occupied by overhead electrical transmission lines

supported by metal towers, and also contain underground pipelines. The Southern California Edison Company estimates that they own a total of approximately 54.2 acres of right-of-way area in the City of Redondo Beach.

In the flatter areas of these rights-of-way in North Redondo Beach, the City has beautified a portion (14.78 acres) of the long linear corridor with turf and regularly maintains the turfed areas. This acreage represents approximately 8.2 percent of all recreation and parkland area in the community. The corridor runs through several neighborhoods and is used extensively for passive recreation. While the turf is an important aesthetic improvement over having no landscaping at all in these areas, the corridors still create long monotonous strips of turf open space which offer little recreational use. The remainder of the corridors are primarily used for commercial landscape plant propagation.

The City has designated Southern California Edison Company transmission line rights-of-way as open space and recreational areas. This has been done through the cooperation of the Southern California Edison Company. It is recognized that the primary purpose of these rights-of-way are developed and designated for utility purposes, any open space recreational uses that will not interfere with the utility functions may be allowed through the issuance of a grant of a license by the Southern California Edison Company.

G. Redondo State Beach

The State of California-owned and Los Angeles County Department of Beaches-operated regional beach facility totals 36.2 acres (representing approximately 20.0 percent of all recreation and parkland area in the community. This facility includes restrooms, life guard facilities, parking and related facilities. It is easily the most frequently visited recreation area in the city. The County Department of Beaches estimates that approximately 3.4 million persons visited Redondo State Beach during 1990. Many residents also jog along the Esplanade directly overlooking the beach area. Adjacent high-rise units along with beach-goers create typical beachfront traffic jams and congestion. As with most beach communities, the beach is the principal recreational focus of the city, especially for young people.

Descriptions of Supplemental Existing Local Recreational and Parkland Facility

In addition to the variety of public recreational and parkland facilities described above, the community contains a number of supplemental recreational, park, and open space resources and facilities which are used by local residents and visitors, and serve as important components of the overall community system. These facilities include, but are not limited to:

A. King Harbor

Recreational use of the King Harbor area is predominantly limited to the combination of private boat marinas (totaling approximately 1,500 slips, which is

not open to the general public. However, there are other public uses, including the Municipal Pier, which allow free access and public fishing. Other public uses include the Seaside Lagoon and City sailboat rentals at Moonstone Park (see descriptions above). There is also an area available for public boat launching. Several restaurants, hotels and other commercial recreation facilities make King Harbor a unique recreation resource within the region.

While highly successful in a regional-tourist attraction sense, development of the harbor has also created additional traffic congestion problems, and has limited resident access to the beach area. King Harbor is generally regarded as the symbol of Redondo Beach for many residents and visitors.

However, due to the traffic congestion and non-resident use, many "locals" voiced a preference for avoiding the harbor area, particularly in the summer. Additional public access to the harbor area should be considered and provided if possible.

B. Community Centers and Senior Centers

The City of Redondo Beach currently contains two different community centers: 1) The Hayward Community Center, located at the intersection of Blossom Lane and Artesia Boulevard, serving North Redondo Beach; and 2) the Community Resources Center, located at the intersection of Pacific Coast Highway and Knob Hill Avenue (the former Patterson School), serving South Redondo Beach. These "community" centers are used for a broad range of public uses, including education, health, public meeting space, recreation, and the local historical museum.

The City, however, has never developed a true community center solely for recreational use. These facilities are typically a building or cluster of buildings, usually located within parks which house recreation classrooms, health-fitness facilities, pool, gymnasium, racquetball courts, and art facilities. Typically, a formula of 25,000 square feet of recreation building floor space for each 25,000 in population is used. Redondo Beach, because of the availability of surplus classroom space, has decentralized its classroom space into many city-wide locations. These include: surplus and operating public school classrooms and cafeterias; trailers set up at parks; community buildings within Perry Park; churches; private recreation and learning facilities; and senior centers. There is a current need for new classroom space, which is continuing to grow over time. The addition of the former Aviation High School facility offers the opportunity to create a true community recreation center.

There are also four well-organized senior citizen centers in the City, operated by the City Community Services Department, including centers at Anderson Park, Perry Park, Veterans Park, and the Community Resources Center at the former Patterson School. These centers host daily activities for senior citizens, and help meet the recreational, educational, and social needs of the local senior community. There are

three senior clubs at the three centers within the park sites. Membership citywide is currently 750 to 800 seniors. New membership is relatively static, although with the socioeconomic and demographic trend of persons retiring earlier, new senior members tend to be younger in age. (See the Senior Citizen Services and Child care Services section of the General Plan for additional detail and information on this subject).

C. Bikeways

The city's circulation and street system was originally designed at a time when bicycles and bicycle facilities were not regarded as a important component of the transportation system.

Despite growing demand, there is little opportunity to meet bikeway needs on local streets because of insufficient existing lane widths and heavy demand for on-street parking. A Bikeway Plan was developed in 1975 by an appointed Citizen's Bicycle Committee which focused on linking major public facilities and commercial and employment centers by bikeways. City of Redondo Beach bikeways were planned to interface with neighboring city bikeways. A total of 15.5 miles of bikeways were proposed in the City. A number of five foot wide striped bike lanes were recommended that would share roadways with cars. However, for safety reasons, on-street parking along those routes would need to be removed. Due to a very high demand for on-street parking, this proposed plan was considered unfeasible and was never officially adopted by the City Council.

While there are few easy opportunities for expanding local bike lanes, it is possible to identify bike "routes" where bicycle traffic can be expected to share roadways with cars. On-street parking would therefore be retained in these areas. These routes would be designated and identified by signage only. Recommended standards for bike routes are streets with outside lanes of at least 14-feet wide, where peak hour traffic volumes are less than 450 vehicles per lane, or a 10 to 13 wide foot lane width with a lower peak hour auto use of less than 250 vehicles per lane.

Existing and proposed bikeways are shown on the Recreation and Parks Element Map and Circulation Element map. An existing bike path extends along the beach area as part of the South Bay Bikeway. North of Torrance Boulevard, there is a bike lane extending through King Harbor and then along Harbor Drive. Bike lanes have also been added along Diamond Street and Grant Avenue with the restriping of these facilities, further described in the Transportation and Circulation section of this document.

D. Private Recreational Facilities

There are several prominent private recreational facilities located within the City of Redondo Beach. These facilities expand the availability and overall variety of

recreational options available to the residents of the community, particularly young adults. There are three principal private recreational facilities in the City, offering fitness-related, recreational, and entertainment activities targeted at the young to middle adult aged resident population. These facilities include:

- 1) Sport Center Fitness, Inc.: This large, private fitness club is located at the southwest intersection of Harbor Drive and Marina Way within the overall King Harbor complex in South Redondo Beach. The facility features a full array of modern Nautilus exercise equipment, five racquetball courts, two tennis courts, two squash courts, aerobic classes, and life cycles. Membership totals approximately 2,000 people, consisting primarily of local residents between 20 and 40 years of age. The facility is the most popular health spa/gym facility in the City of Redondo Beach.
- 2) Malibu Castle Entertainment Center. This unique local facility is located between the San Diego (405) Freeway right-of-way and the Santa Fe Railroad right-of-way (approximately 0.25 miles west of the intersection of Inglewood Avenue and Marine Avenue) in extreme North Redondo Beach. The facility offers miniature golf, arcade games, and an array of water-oriented recreation activities (water slides and rafts) developed primarily for young families and teenagers. Due to its location in the far northeastern portion of the community, the site is not close to most Redondo Beach resident; for this reason, the majority of users of the facility are from the City of Hawthorne and City of Lawndale, although Manhattan Beach and Redondo Beach residents do patronize the facility.
- 3) Active West South Bay Bowling Center: This facility is located in the southern center of the Galleria at South Bay Shopping complex, due east of Kingsdale Avenue in North Redondo Beach. The facility includes a total of 54 bowling lanes, and offers bowling leagues and City-sponsored recreation classes, as well as open bowling available to the general public.

E. Adjacent Municipality Parks

With several other municipalities located nearby, their parks can play an important role in satisfying a portion of the recreational needs of City of Redondo Beach residents. The recreation needs survey identified several parks not geographically located within the community that were used often by City of Redondo Beach residents. This pattern of use appears to be most significant in the inland North Redondo Beach area, which is surrounded by several other cities (the City of Lawndale, the City of Torrance, the City of Hermosa Beach, and the City of Manhattan Beach).

In Recreation Planning Area One, 30 percent of the survey sample visited parks in adjacent cities more than five times per year, while 40 percent visit non-Redondo

Beach parks at least once per year. In recreation Planning Area Two, 24 percent of the survey sample visited parks in adjacent cities more than five times per year, while 30 percent visit these facilities at least once per year. Pollywog Park in the City of Manhattan Beach is the principal non-city park used by Redondo Beach residents. A summer concert series is offered at this park, which is popular to many residents in the South Bay area.

Recreation Program Inventory

The formal local recreation program is organized and operated through the City of Redondo Beach Recreation and Parks Department, whose offices are located at the Community Resources Center (the former Patterson School), located at 320 Knob Hill Avenue (the intersection of Pacific Coast Highway and Knob Hill Avenue).

Recreation classes and related special programs are offered for both residents of the City and non-residents on a quarterly basis. Scheduled classes for various age groups from preschool activities to senior citizen-oriented functions are published in a quarterly newsletter mailed to all Redondo Beach citizens. A nominal fee is charged for almost all classes or special events to cover a portion of instructor salaries, equipment costs, etc. Traditionally, the summer and fall quarters have been more popular in attendance than spring or winter classes.

Classes may be located at either private or publicly owned recreation facilities. Most of these classes occur in Redondo Beach at City parks, City Community centers and public schools. Several classes, however, are required to be conducted outside of the City of Redondo Beach, due to a lack of appropriate local facilities. These include ice skating classes, horseback riding, some racquetball classes and golf classes. Special excursion or field trip courses are also occasionally offered to locations in the southern California area.

Popular classes include gymnastics, toddler fitness, ice skating (especially in winter), dancing (all ages), horsemanship (all ages), tennis (all ages), aerobics (adults), sailing (adults), softball, racquetball, computer programming and cultural excursions. Reservations are required in advance for softball/baseball fields, tennis courts and racquetball due to public use and recreation program demands. A shortage in workable classroom or seminar space for certain indoor classes has resulted in crowded classrooms in some instances and other program limitations.

Fitness clubs located within and outside the City of Redondo Beach are numerous and serve a majority of the South Bay population. Membership in these establishments increased during the emergence of health-consciousness of the 1970's, these are continuing to increase at a slow yet steady rate.

A listing of the various recreation programs presently offered by the City of Redondo Beach Parks and Recreation Department has been provided within this

section of the document (Table 48). These programs are divided up into pre-school activities, youth-teen classes, special events and excursions, adult sports and exercise, and adult cultural arts. Also noted is the quarter(s) or season(s) in which the program is offered, the number of classes that are offered, and a notation as to whether the program is hosted in Redondo Beach.

Parkland Size and Population Density Ratio Standards

Park and recreation services are community services, and ideally can be measured through the use of quantitative or qualitative standards. These standards should be applicable for most or all communities. However, in reality, it is difficult or inadvisable to apply basic standards without question or consideration of local conditions in specific areas. Every community is obviously unique, and has its own geographical, cultural, climatic, and socioeconomic characteristics.

For these reasons, every community should develop their own standards for parks, recreation and open spaces. There are broad differences between a new developing community, for example, and one which is more mature and almost fully built-out (such as Redondo Beach).

The National Recreation and Parks Association provides a wide range of park standards. They do recommend, however, that a minimum of 25% of the land area of new towns or developments be left as permanent open space. Los Angeles County has adopted a series of basic standards and ratios between the desired amounts of public open space in relation to population density. These include a suggestion of 6.0 acres of regional parks (50 acres in size and above), 1.5 acres of local parks (below 50 acres in size) and 2.5 acres of playgrounds for every 1,000 persons in the resident population.

The national average in this regard is 1.0 acres of public open space for every 1,000 persons in the resident population. Overall, urban public open space standards are difficult to establish for cities throughout Los Angeles County, due to the wide variation in attitudes about open space prevailing during the development periods of individual cities. In communities such as the City of Redondo Beach, this standard is especially difficult to implement, due to the built-out nature of the city.

Despite these factors, the City, at a minimum, should strive to retain its current level of open space to residents as its population increases. As previously mentioned, the current City park acreage, including the State Beach, totals 180.21 acres. This amounts to a city-wide ratio of approximately 2.995 acres of public open space for every 1,000 residents in the local population. This level is thus moderately (approximately 20 percent) above the recommended total of 2.50 acres per 1,000 person population ratio of the United States Department of Housing and Urban Development, but is generally less than new developing areas in other cities, which can more effectively plan for new parks as their areas develop.

TABLE 48**Existing City of Redondo Beach Recreation Programs**

Type of Activity	Not in R.B.	No. of Classes	Winter	Spring	Summer	Fall
Pre-School Activities						
Baby/Mommy Exercise		2	•	•	•	•
Toddler Fitness/Development		5	•	•	•	•
Kinder Gym/Tumbling		4	•	•	•	•
Pre-School		3	•	•	•	•
Tap/Ballet		6	•	•	•	•
Ice Skating	•	1	•	•	•	•
Playtime Tennis		4	•	•	•	•
Youth-Teen Classes						
Drawing and Painting		2	•	•	•	•
Crafts		2	•	•	•	•
Dancing		9	•	•	•	•
Piano		12	•	•	•	•
Singing		1	•	•	•	•
Drama Production/Speaking		2	•	•	•	•
Commercial Acting Skills		1	•	•	•	•
Reading Development		6			•	
Science Lab/Nature		3	•	•	•	•
Computer Programming		2	•	•	•	•
Ice Skating	•	2	•	•	•	•
Self-Defense		6	•	•	•	•
Gymnastics and Clinic		6	•	•	•	•
Youth Tennis		8	•	•	•	•
After School Playground Program		10	•	•		•
Summer School Playground Program		10			•	
Culture Arts in Elementary Schools		10	•	•		•
Disabled Youth Recreation Programs		1	•	•	•	•
Special Events/Excursions						
Youth Track Meet		1		•		
Wilderness Park			•	•		•
Easter Baskets/Eggs		1	•			
Summer Theatre Camp					•	
Day Camp - Seaside Lagoon - Summer				•		
Adult Computer Programming		14	•	•	•	•
Spring Sing		1		•		
Youth Theatre Productions		2	•	•		
Adult Sports/Exercise						
Exercise/Aerobics		9-12	•	•	•	•
Yoga		1	•	•	•	•
Karate/Self Defense		1	•	•	•	•
Ice Skating	•	1	•	•	•	•

TABLE 48(Cont.)

	Not in R.B.	No. of Classes	Winter	Spring	Summer	Fall
Adult Sports/Exercise (Cont.)						
Volleyball		2-6	•	•	•	•
T'ai Chi		1	•			
Dog Obedience		5	•	•	•	•
Sailing	•	6	•	•	•	•
Adult Tennis		17-18	•	•	•	•
Racquetball		2	•	•	•	•
Tennis Clinic		1	•	•	•	•
Adult Basketball Leagues		2	•	•	•	•
Adult Slow-Pitch Softball Leagues		4	•	•		•
Seaside Lagoon - Opens May					•	
Adult Volleyball Leagues		2	•	•	•	•
Adult Cultural Arts						
Drawing		1	•	•	•	•
Watercolor		1	•	•	•	•
Photography		2	•	•	•	•
Dancing		6	•	•	•	•
Reading Development		4			•	
Theatre Productions		2	•	•		•

Leagues, Clubs and Organizations

The following organized leagues, clubs and scout organizations are found in Redondo Beach. Leagues have a significant role in youth-oriented recreation in the city. The city has many fine new multi-purpose ballfields which receive a lot of league use.

Little Leagues (L.L.)

Boys/Girls aged 6 to 18 (varies with league)

Central Redondo Beach L.L.

North Redondo Beach L.L.

Redondo Beach Sunset Youth Baseball

South Redondo Beach L.L.

American Youth Soccer Organization (AYSO)

(boys/girls, ages 5-18)

South Redondo Beach AYSO

North Redondo Beach AYSO

Redondo Beach Youth Basketball

Boys Grades 2-8

Girls Grades 2-9

Football

Redondo Beach Junior All-American Football
(boys, ages 8-13)

Cheer Leaders and Drill Teams

Scouts

Boy Scouts

Campfire Girls

Girl Scouts

Redondo Beach Sea Scouts

Seniors

North Redondo Seniors

Central Redondo Seniors

South Redondo Seniors

Inventory revised 10/17/91

Source: City of Redondo Beach Parks and Recreation Department, 1991.

To meet the needs of the year 2010 population estimated at 70,428, an additional 30.72 acres of new public open space will be needed, in order to maintain the same ratio of public open space per resident that presently exists. It is clear that to do this, available acreage from surplus or operating local school sites will be needed.

Parks, Recreation, and Open Space Zone

In 1984, the Redondo Beach City Council adopted a Parks, Recreation and Open Space Zone (PRO) as a formal classification within the City of Redondo Beach Zoning Code. Creation of the Parks Recreation and Open Space Zone will serve to accomplish the following objectives:

- Identify and protect park, recreation and open space areas within the City from incompatible development and land uses;
- Preserve as park, recreation, and open space areas portions of certain public school sites in which the City of Redondo Beach has made a significant financial investment for recreation purposes.
- Provide a permanent scenic buffer along the coastal hillsides and the Southern California Edison Company rights-of-way by severely limiting the use of these areas.
- Protect the Redondo Beach State Beach from inappropriate and overly-intense commercial development.
- Encourage the appropriate and sensitive use of other public lands throughout the City.

The new zoning designation gives the City's Recreation and Parks Commission an opportunity to review all proposed uses and development requiring discretionary governmental approval before formal action is taken in these geographic areas. This zoning provision should serve to preserve the City's parks, recreation and open space areas in perpetuity for use and enjoyment by the public.

Future Park and Recreation Needs (1990-2010)

A projection of the future public park and recreation needs through the planning year 2010 is based upon a compilation of several sources of information. When making recommendations for facilities and programs, a three step process was used. This included: 1) establishing priority based upon recreation needs; 2) examining deficiencies (if any) by geographic recreation Planning Area (1 through 4) and potential locations or sites for facilities; and 3) making recommendations based

upon the above steps. The following table lists projected public recreation facility needs through 2010 by priority level (high, moderate and low).

Priority for Public Recreation Facilities and Activities Through 2010

High Priority

- Swimming Facilities
- Bikeways
- Additional Picnic and Bar-B-Que Areas
- Additional Neighborhood Playgrounds and Passive Recreational Open Space
- Improved Gymnasium Facilities
- Determine Park Development Potential of Dominguez Park
- Expansion of Adult Programs as Population Grows
- Retrofitting of Facilities to meet Disabled Accessibility/Use Guidelines

Moderate Priority

- Renovation of Aviation Auditorium Based Upon Additional Analysis
- Jogging Trails
- Tennis courts in northern Redondo Beach
- Softball Fields in northern Redondo Beach
- Community Recreation Centers
- Examine Option of Small Par-3 Golf Course at Dominguez Park

Low Priority

- Additional Court Facilities Including Racquetball, Volleyball and Basketball
- Additional Camping and Nature study Area
- New Youth Programs Except Cultural-Related
- Performing and Graphic Arts Programs - Based on Demand Only
- Multi-Use Football/Soccer Fields

Several recreation facilities and programs have been prioritized as high, medium and low items in making recommendations for the year 2010. The sources of data used in the compilation are many, including:

- Recreation Needs Survey and Focus Group Discussions - What are people's recreational needs, opinions and desires; what facilities are desired in the future; what are not?
- Inventory of Facilities, Programs and Available Public Open space - What are the existing facilities and where are they; what programs are popular or crowded; what open space areas are available for park development or open space appreciation?

- Facility Standards - How much parkland should theoretically be provided; what facilities and how many should be theoretically provided--for comparison purposes?
- Population Projections - How many people will live in Redondo Beach in 2010; what age group mix will there be; what recreation planning area will they be living in?
- Quality of the Leisure Experience - What mix of open space and developed parkland should be included in developed parks; should one age group be given preference over another age group, such as children over seniors, or vice versa?

High Priority Items. Overall, items included in the "high" category relate to most or all of the following criteria: 1) are high on the recreation needs survey's desirable facility list; 2) have available lands or sites for development; 3) are popular activities; 4) are necessary to meet quantitative standards; 5) are needed for growing are groups or preference groups; 6) are facilities lacking in one particular recreation planning area over another; 7) are facilities which are currently non-existent or are in short supply/high demand; 8) are desirable to improve or maintain the leisure experience in the City of Redondo Beach. These actions should be considered within the next two to five years. Planning studies needed prior to implementation of facilities or programs should commence within a one year period of adoption of the updated General Plan.

One related high-priority item is the future retrofitting and altering of existing open space and recreational facilities to meet recently enacted Federal law standards for disabled person access and use. The Americans with Disabilities Act of 1990 (ADA), among other requirements, mandates that:

"no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity."

In practice, this wide-ranging law mandates that all public recreational and open space areas and facilities be retrofitted or altered to allow full access to and use by disabled individuals (unless such alterations are proven to be physically or financially impossible). Conformance with this law would necessitate an immense commitment of financial and manpower resources to achieve the required alterations and retrofitting to local facilities.

Moderate Priority Items. Items placed in the moderate priority category relate to most or all of the following criteria: 1) are listed midway on the recreation needs survey's list of desirable facilities; 2) have potential available lands for development;

3) are generally popular activities although may be more limited; 4) are desirable to meet standards for popular sports or activities; 5) are desirable for growing age groups; 6) are facilities which may not currently exist, such as par 3 golf, but may have potential for development and appear to have sufficient market study; and 7) would be desirable to maintain or improve the leisure experience. These items should be implemented within five to ten years.

Low Priority Items. Items placed in the low priority category relate to most or all of the following criteria: 1) are listed low on the recreation needs survey's list of desirable facilities; 2) may not require additional facilities through 1995; 3) may not have potential developable land; 4) relate more to facilities typically used by declining age groups; 5) are not generally popular with the majority of city residents; 6) would be desirable to maintain or improve the leisure experience although are less critical; and 7) should be maintained as status quo.

These facilities should be considered within the general review of potential new facilities to be provided at new or expanding park sites.

A. High Priority Items

Swimming Facilities. No public swimming pools are regularly available for use by local residents. Current public swimming facilities include Seaside Lagoon and the Redondo High School Pool (in addition to the open ocean). The Seaside Lagoon regional facility is a saltwater lagoon open only during the summer months. The Redondo High School pool is available by reservation through the High School District when not in use by the District. Its use is very limited for the general public.

Use of swimming facilities could be expected from a wide range of user groups. These might include: swim classes; city program use; private use such as scuba lessons; general public use including fitness conditioning or recreational use; and for potential league use.

Given the city's coastal location and demographic profile, the city could support up to four public swimming facilities by the year 2010. These could include additional swimming lagoons, competition pools or general recreational pools. Many cities have found that the historic 25 meter pool typically developed during the 1950's (primarily for children's use) is losing its public appeal. Use is declining significantly for such facilities. Therefore, new pool facilities should contain additional decking for sunbathing and areas to socialize to be popular to the public. This is particularly true for adult populations. Construction of a new pool facility at the former Aviation High School site could meet these needs; it is, however, poorly located to meet overall community and family needs in North Redondo Beach.

It is recommended that up to two public swimming facilities be constructed in the community, in addition to the provision of a facility at the former Aviation High School site, in order to effectively meet community needs. Possible locations include the Franklin Park site or Anderson Park. Another pool could also be built

to serve the residents of South Redondo Beach at Alta Vista Park. Seaside Lagoon should continue as a regional facility.

Bikeways. Bicycle riding is an increasingly popular form of recreation, both for fitness and for transportation, and is also evolving to become an important, popular, and environmentally-sensitive means of commuting to and from the work place. For these reasons, more and more riders are in need of expanded and safe travel routes. The City Bikeway Plan, originally conceived in 1975 and currently revised to downgrade some locations to signed routes instead of painted lanes and the recommendations contained in the Circulation Element relative to bicycle transportation, should be fully implemented.

Additional Picnic and Barbecue Areas. Additional picnic areas, some with barbecue facilities, should be expanded and renovated. Picnic areas should be expanded at existing parks and given a high priority for new parks. The number of picnic tables in the community should be doubled through 2010. Potential locations include: the former Aviation High School site; the Southern California Edison Company turfed rights-of-way; Playfields; Moonstone Park; Perry, Anderson, Dominguez, Alta Vista and Czuleger Parks; and new parkettes. Barbecue facilities should be included at all community park sites, where feasible and appropriate.

Additional Neighborhood Playgrounds and Passive Open Space. Additional public recreational and open space for passive use or use by children should be provided in the community. While the number of children in the City as a percentage of the overall population continues to decline, there is still strong public sentiment to provide facilities for children (such as parkettes). In addition, passive use or open play greenspace is needed for all age groups. Additional potential acreage sources needed for this reason through the year 2010 include: new parkettes, replacing existing asphalt with turf at school sites, and adding new greenspace at the Franklin Park site, Andrews Playfield and former Aviation High School site. Considering the acreage distribution of existing park, school and Southern California Edison Company beautified right-of-way open space, it is recommended that four new parkettes be added in the community through 2010, at the following general locations:

- Western area of Planning Area 1
- Southeastern area of Planning Area 3
- North central area of Planning Area 4
- South central area of Planning Area 4

These parkettes should preferably be located at the corner of neighborhood streets to maximize visual and physical access and to reduce vandalism and adverse human activities. Higher priority should be given to providing a new parkette in Planning Area One. Double-wide lots should be developed where possible to maximize open space and expand the opportunities at each site. Local residents should be included throughout the design process of "their" neighborhood park.

Long monotonous turfed rights-of-way should be further improved with nodal passive recreation use areas, including picnic tables, tree massing and turfed mounds connected by pedestrian paths for neighborhood use (similar to the recently completed Lilienthal Park). Bicycle paths may be added near nodal use areas, but the development of a continuous bicycle path is significantly hampered by frequent street crossings.

Additional Public Parking Near Parks. A common complaint of residents during peak use periods at many local park facilities is the lack of adequate public parking. The parks most often associated with this problem include: Perry, Anderson, and Veterans Park.

There is also inadequate parking at the former Aviation High School site during maximum auditorium, gym and ballfield attendance. The Perry Park and Anderson Park parking areas are full during peak ballfield use periods. Overflow parking for Veterans Park is available at the nearby parking garage at King Harbor. However, even the garage sometimes becomes full during the summer. Parking congestion tends to reduce the use of these parks and also adversely impacts adjoining neighborhoods as on-street parking is used up and eliminated. Parking studies should be conducted at Perry and Anderson Parks to identify potential areas for additional parking. New or expanded park facilities should plan for adequate public parking space.

Improved Gymnasium Facilities. Gymnasium facilities are located at Redondo High School and at the former Aviation High School site. Facilities at Redondo High are by fee and reservation only, and are generally limited for public use. The gymnasium at the former Aviation High School site is currently available through the City Recreation and Parks Department. Private gymnasium facilities available in the community include numerous South Bay health clubs and YMCA's. It is recommended that the former Aviation High School gymnasium be further improved for public use to accommodate a broader range of uses, including gymnastics, fitness classes, basketball, volleyball and other classes. If additional community recreation centers are constructed, a gymnasium should be included within the new centers, to accommodate demand through the year 2010.

Dominguez Park Soil Studies. Dominguez Park is currently the least developed local park, and receives a low level of use due to an absence of facilities. This absence is due to soil stability problems resulting from the previous use of the site as a landfill. Soil and engineering studies are presently being reviewed and analyzed to determine possible remedies to stabilize the soil at this site. Once stabilization has been performed, the ultimate recreational use of the site will be determined, and facilities implemented. This will include the future use of the adjacent Southern California Edison Company right-of-way.

Adult Program Expansion. As the City's adult and senior population increases through the year 2010, the number of adult-oriented programs and the size of classes is expected to increase. Classes aimed at young to middle aged adults (18 to 54 years) and seniors (55 years or greater) will become more popular and will receive greater

attendance. The City will need to concentrate on developing additional program classes as demand dictates. To accommodate new classes, additional staff personnel and classroom space will be needed. These classes include sailing and boating; aerobics, fitness, gymnastics and dance; excursion trips; and adult softball leagues.

Former Aviation High School Site Reuse Study. The former Aviation High School site was recently acquired for recreational use by the City of Redondo Beach under a long-term lease of 11.2 acres and purchase of 3.0 acres for parking purposes.

A site reuse study is underway, to determine the interim and ultimate operation, use, and design of the site. The study will address the design and operation of the various existing facilities as well as which new facilities need to be added. In addition, funding sources, concessionaire and public-private operation options will be examined. Because of the location of the park and its unique facilities, the study needs to examine how the facility will meet the future needs of the community, adjacent corporate recreation needs, and potential regional needs of the South Bay area.

B. Moderate Priority Items

Renovation of the Former Aviation High School Auditorium. Redondo Beach currently has two auditoriums and a small multi-use stage facility at Perry Park. The larger auditoriums, approximately 1,500 seats each, are located at Redondo High School and at the former Aviation High School site. The High School auditorium is available for limited public rental through the District. The former Aviation High School auditorium is also currently available on a limited basis.

It is recommended that the auditorium at the former Aviation High School site be included within the site reuse study of the entire property. The theater and performing arts market is a complicated one, and is a costly and risky venture for most operators. There are a wide range of activities which could take place at a theater complex. A thorough investigation of several key factors is required, including: seating capacity, market demand, potential revenues and costs, operation of the facility, and parking availability.

Jogging/Walking Trails. Walking and jogging are increasingly popular recreational past-times for young adults through seniors. Many people walk as their principal means of exercise. With the congestion of urban streets, open spaces such as parks, schools, and beautified turf right-of-way are important areas for walking, running or jogging. Jogging trails are therefore important at these locations. Trails should be provided at park locations, joint-use school facilities and within beautified turf rights-of-way.

Tennis Facilities In North Redondo Beach. The City has a fine tennis complex at Alta Vista Park in South Redondo Beach, and other individual courts located at various schools. With an increasing adult population, the number of tennis courts should increase. Additional lighted tennis courts will be needed in the northern

portion of the community through the year 2010. The former Aviation High School site has abandoned court facilities which may be eliminated by the need for additional public parking at the site. Potential public parks where tennis courts may be added include the former Aviation High School site, Anderson Park, Playfields and the Franklin Park site. Because of the popularity and programming of the highly successful Alta Vista tennis courts, additional courts could be supported at Alta Vista Park.

Softball Fields In North Redondo Beach. As experienced elsewhere in California, softball and baseball are popular sports for youth and adult leagues. There are presently four Little Leagues and one Pony League in the community. There is also a popular adult slow-pitch softball program. The city has several elaborate ballfields which receive very intensive use. Youth leagues continue to be popular even though the population of children and teenagers as a percentage of the overall population continues to decline. It can be expected that at some point, youth league capacity and needs will increase. Given these needs, up to four new lighted softball fields should be added in North Redondo Beach through the year 2010. A potential site for this purpose includes the former Aviation High School site. New facilities should not impact passive use areas where people go to relax and unwind.

Community Recreation Centers. The city does not currently include any "true" community recreation centers. Recreation classrooms are located at scattered locations in schools, parks, churches, and private facilities. Anderson and Dominguez Parks currently have trailers for these purposes. Two City Community Centers are in place, including the Community Resources Center (located at the former Patterson School), and the Hayward Community Center located on Artesia Boulevard. Recreation centers should be located within community parks and may include classrooms, a gymnasium, racquetball courts, workout area, arts and crafts facilities, and a pool.

Two "true" community recreation centers should be developed in the community through the year 2010, one in North Redondo Beach and one in South Redondo Beach. The center in North Redondo Beach could be developed as an extension of existing facilities at the former Aviation High School site or at Anderson Park or the Franklin Park site. A center has also been under consideration at Alta Vista Park.

C. Low Priority Items

Racquetball, Volleyball and Basketball Courts. New court facilities for racquetball, volleyball, and basketball are a low priority, but should be considered as part of new facility development at the former Aviation High School site, Madison School or Franklin Park site. The need for new racquetball courts will continue to increase with the adult population. This recreational need, however, is being increasingly met by private health and racquetball club facilities, which should be considered as an important and effective supplement to public facilities. Volleyball and basketball,

typically popular outdoor sports for teenagers and young adults, should also experience a slight increase in need, which may be accommodated at new park sites in North Redondo Beach.

Camping and Nature Study. These activities are located at Wilderness Park, a unique regional natural open space park. The park is very popular with residents. Continued support should be given to this unique regional resource. Additional marine interpretive facilities may be included with new public development at Moonstone Park in the harbor area.

Football/Soccer Fields. Additional football/soccer fields are a low priority, but the addition of one field should be considered with the provision of potential multi-use lighted ballfields at the former Aviation High School site. However, other competing recreation uses should also be given priority.

Youth Programs. With the significant decline in the population of children and teens as a percentage of the overall population, programs or classes relating to the needs of children should show a decline. Some classes may, however, show an increase, such as toddler fitness and ice skating, based upon current popularity. Programs should be adjusted accordingly. In addition, cultural-related classes for children should be considered. This may be done in conjunction with the local School Districts.

Performing and Graphic Arts Programs. There is a growing demand for performing arts where people could attend cultural events and/or be involved in theater. The City Recreation and Parks Department sponsors a successful youth and adult community theater program at Aviation and Perry Parks. Graphic arts ranked low for participation over the last several years. Several programs and classes are available to residents through the local school districts and through local college districts. Interest in the arts appears to be increasing, and additional programs may be required. Class offerings should be adjusted with changing demand.

Funding Considerations

The following is a summary of various financial, legal and other cost saving measures which should be considered in the implementation of the Recreation and Parks Element. Much like other local municipalities, the City of Redondo Beach has limited financial resources from which to provide expanded public recreation facilities, programs and open space to meet the needs of its residents. The City has generally relied upon its General Fund for a majority of its park and recreation budget. New facilities have been built, but usually only with the assistance of federal grant funding. Federal funds have all but disappeared in the present economic context, and the future for continuing federal and state funding is uncertain.

It is clear that new facilities will probably not be constructed at a rate meeting or exceeding the growing recreational needs of residents, without some way of supplementing the City General Fund (which is expected to continue to serve as the principal funding source for these purposes). Options for potentially supplementing the City General Fund or to reduce capital improvement or operations and management costs are listed below:

- An examination of residential construction/park development fees should be conducted to determine if fees should be added or raised.
- The City should continue to work with nearby office and industrial sources to provide revenue for renovation of the former Aviation High School site.
- A study of the user fee schedule should be conducted to determine if charges should be increased or modified. Particular attention should be paid to non-resident fees which are presently nearly identical to resident fees.
- The City should consider the creation of special benefit assessment districts to fund new neighborhood and/or community facilities in North Redondo Beach and South Redondo Beach. Clear facility proposals must be outlined in each area. The Landscape and Lighting Act should be considered as a mechanism for this purpose.
- City grant-writing staff should continually contact the various responsible agencies to identify Federal and State funding sources. Private grant sources should also be sought.
- The City should consider the use of Certificates of Participation, which have replaced General Obligation bonds, for park development if other revenue sources are exhausted. This method has been used elsewhere in the city for facilities such as fire stations and libraries.
- Adopt-a-Park programs may be considered for the maintenance of smaller parks or for the commercial advertising rights of larger prominent parks.
- Enterprise Parks may be considered at the former Aviation High School site and Alta Vista Park, if other concessionaire facilities are added.
- Corporate and private sponsorship should be sought from local aerospace industries, private trusts and foundations, and community groups.
- Local service organizations should be contacted to see if they could help fund beautification projects, donate park equipment, or sponsor small parks.

- The City should assist non-profit organizations such as an "arts council" to sponsor various civic activities or to maintain public facilities.
- Public versus private concessionaire operation should be considered for new capital intensive facilities, such as an expanded sports-tennis complex at the former Aviation High School site or Alta Vista Park.
- Private maintenance of landscape medians and park turf areas should be considered to reduce park maintenance costs.
- The City should continue to coordinate closely with the two local school districts. School facilities are a significant part of the city's recreation and open space system, and are expected to continue as such.
- The City should examine expansion of joint-City recreation programs with neighboring municipalities.

3.4.4 Open Space Element

The purpose of the Open Space Element is to identify areas of natural scenic beauty, recreation, and natural resources; to develop a plan for the preservation of open space, and to coordinate the plan with the plans of other governmental agencies charged with the conservation and preservation of open space lands.

The Conservation and Recreation and Parks Element have been prepared as independent but related "mini-elements" of the General Plan. However, most of the recommendations contained in these two elements cannot be separated from a viable plan for open space. Consequently, it is intentional that the Open Space Element contain similar or overlapping information as contained within the Conservation Element and Recreation and Parks Elements.

The provision and maintenance of public open space is a major responsibility of all levels of government, as well as a responsibility of the private sector of the Redondo Beach community. Overall, urban public open space standards are difficult to establish for cities throughout Los Angeles County. A government report states that "Each city and community has varying open space needs depending on its geographic location, life style, economic freedom, and personal tastes."

Open space associated with the Pacific Ocean represents for Redondo Beach a finite resource area which cannot be replaced. In southern California the demand for outdoor recreation has not been matched to governmental funding. Consequently, no appropriate standard appears to be practical. In Los Angeles County, urban open space can vary in scale from small residential yards to the expanse of public beaches and the broad Pacific Ocean. As properties are redeveloped, provisions must be made in land development controls to obtain or preserve additional open space. This issue is of special importance for residential projects.

The acquisition of all public and quasi-public property should strive to enhance a community's open space resource. Some public facilities (more than others) lend

themselves to open space contributions. City parks, schools, utility rights-of-way, the Civic Center, and of course, the State Beach, King Harbor, and Pacific Ocean are all major contributors to the City's open space plan. Sometimes overlooked is the public street and highway system. A total of approximately 26 percent of the entire land area in the City is devoted to public roadways and alleyways. While the primary use of these facilities is for the movement of vehicles, they also offer significant contributions to the open space network.

Streets and Highways

To visitors and travelers, the character of the City of Redondo Beach is reflected (among other things) by what they see when driving and walking the streets, particularly the primary roadways. Streets are also quite important in forming opinions and perceptions about the way residents feels about their City.

Cleanliness, safety, efficiency, and visual appearance are all positive features of a well planned street system. When the quality of these elements are lacking, the image of the area is degraded.

All major and secondary highways and arterials represent open space linkages as well as boundaries which define different neighborhoods or areas of the City. Highways must serve as more than a means to move volumes of traffic or provide access to property. They should provide a system of designed entry points, visual corridors, and a sense of "place." Their design should accommodate motorists, bicyclists, and pedestrians. Special design efforts should be continued to make them more attractive by means of landscaping, regulation of street furniture (such as poles and directional signs), regulation and maintenance of commercial signage and through the establishment of specific and consistent building setback lines.

Roadways can also form attractive, landscaped links of greenery running from one street to the other, and between open space areas throughout the city, both public and private. Open space used for street purposes should be designed and maintained so that it does not appear as monotonous linear strips of pavement which are devoted exclusively to automobile and above-ground power line use, and are so devoid of beauty as to repel residents and visitors, including pedestrians and bicyclists.

Four major highways are of particular importance to the City of Redondo Beach because they represent major access routes into the community. These include Pacific Coast Highway, Artesia Boulevard, Aviation Boulevard, and Torrance Boulevard. These streets are of great importance, not only to the merchants along the routes and the traveling public, but also to the citizens of Redondo Beach. For many people, these four highways portray the dominant image of the community, for good or for bad.

Entryways to the City of Redondo Beach and streetscapes can be an especially effective way to indicate community pride and to help define the boundaries of the community. These should be tastefully designed to reflect the character of the local

neighborhood and community, as well as the entire City. Landscaping, signage, street trees, architectural treatments, and lighting are effective ingredients for entryways and streetscapes. The four roadways indicated above should continue to be upgraded in this regard.

Landscaping of all arterial streets provides a wide variety of opportunities throughout the City in providing public open space. Median strips and street trees can be planted. Special design attention should be given to locations where arterial highways intersect. Landscaping of arterial streets should also be continued throughout the City. Development on adjacent lands can then take place by carrying out the landscaping theme onto private property.

This is especially effective when development projects occur on a fairly large scale, such as shopping centers, industrial development, and public and quasi-public facilities. A landscaping program of arterial highways is not inexpensive to operate and maintain. However, this treatment is one of the most effective programs the city has for upgrading visual quality of the entire community.

Street furniture located within the arterial street rights-of-way establishes environmental standards for the private sector of the community to follow, as well as a pleasant atmosphere along the roadways for pedestrians. Many of the City streets are relatively uncluttered with respect to poles, lights, and other distractions which tend to be so pervasive in Southern California cities. However, all of the arterial streets which are significant open space corridors and provide linkage throughout the City should have well designed street furniture and be free of visual distractions and eyesores.

An implementation program of the General Plan requiring a master urban design plan for the community is necessary to bring order and beauty to the City's streets. Poles, street lights, signals, signage, benches, mail boxes, news stands, bus stops and refuse containers are all important parts of the streetscape. There should be a continuing and concerted effort to harmonize these elements and reduce the amount of visual blight on City streets, as population and numbers of visitors to the area increase.

Architectural design consistency and compatibility is also an important means of creating harmony among individual structures. This is especially important in redevelopment areas. Included in the urban design plan should be an examination of specific building setback lines along the City's commercially zoned arterial streets to create breadth along these highways. The arterials (with setbacks and visual openings) can also serve to link important open space areas in the community. Each street will not necessarily have the same building setback lines, nor do these lines necessarily have to be the same as those set forth in the zoning ordinance. An ordinance requiring open space setback lines should allow deviations when compensatory open space has been provided as part of the private development project. Complementary landscape themes within the street and along the building open space setback lines should be encouraged.

Parks and Schools

Park and school facilities are major components of the public open space plan. When existing and proposed facilities are included with other open space lands identified in the Conservation Element, including arterial highways, the City begins to show open space patterns of significant magnitude.

When many people think of open space, they think of "greenspace" or areas containing turf and trees, because these areas offer relief from urban congestion and blight.

This relief may take the form of physical access to "greenspace" as well as visual relief by just driving or walking by "greenspace." It is therefore important to both preserve and enhance city parks and public school grounds, the major sources of "greenspace" in the city.

The amount of turf area and of shade trees often determines the quality of the open space experience. All parks contain significant acreage of greenspace. But it is increasingly important for structures, parking areas and facilities (such as tennis courts) to be located in such a manner which does not detract from the quality of the park or open space experience. Adequate open space area for passive recreation use should be provided, particularly as the City continues to be increasingly urbanized.

Public school grounds are also an important source of public open space in the City of Redondo Beach. The City and local School Districts have implemented the replacement of asphalt blacktop with turfed areas to enhance open space areas at school facilities. Surplus public schools also play a key role in the preservation of public open space in the City. Surplus school sites, or portions thereof, and have been the principal source of new parkland and public open space for the community. Without them, the City would need to condemn privately-owned acreage currently used for commercial or residential uses at high economic and social cost. These costs would, most likely be prohibitive to satisfy the need for additional developed and passive public open space.

Private Lands

The private sector of the community should be encouraged to participate in the City's public open space program. This goal may be accomplished through the establishment of a previously-mentioned building setback line program adjacent to arterial highways, as well as through the creation of private open space areas in future residential and non-residential developments.

As land is recycled from single family to multiple-family dwelling units, private open space must be provided for the residents of these projects. This is provided through zoning ordinance control of open space requirements. Similarly, open space adjacent to shopping centers and industrial buildings which are used for off-street parking or setback areas, should be considered part of the private open space

plan. It is particularly important to require that off-street parking areas be fully landscaped and adequately maintained.

One less obvious contribution to the open space inventory in North Redondo Beach is the Pacific Crest Cemetery. This facility consists of approximately 15 acres of land, and will serve as a permanent "visual" area of open space. A portion of this facility is walled-in, and cannot be seen from adjacent roadways or developed areas. The cemetery property could be more visually related to the community with open space and landscape beautification.

Utility Rights-of-Way

A significant quantity of acreage within the City is used as utility rights-of-way, for both overhead electrical transmission lines and underground pipelines. Some of this acreage owned by the City has been improved to enhance the visual appearance and passive recreational use of the rights-of-way. The remainder of the rights-of-way are used for the commercial propagation of landscape plant material. The latter use occurs primarily on steeper slopes. Both uses contribute to the open space resource.

However, further enhancement of the turfed areas should occur to help relieve the long monotonous expanse of turf areas and the repetition of the electrical towers. Methods to help enhance the visual quality of the rights-of-way and to promote greater passive recreational use include: additional landscaping, mounding, use of trails, clustering of trees, and passive picnic areas.

Recently, the matter of potential public health hazards related to the electromagnetic and radiation fields existing around and generated by electric transmission lines and towers has received significant attention. This issue is currently being studied intensely at the state and federal level; no definitive conclusions relative to the potential impacts of these fields on public health and safety are yet available. The City of Redondo Beach should carefully monitor the results of these research and study efforts, and should take any actions necessary to address this issue when appropriate findings become available.

3.4.5 Goals, Objectives, and Policies

Listed below are the goals, objectives, and policies proposed for the Conservation Section, Recreation and Parks Section, and Open Space Section of the City of Redondo Beach General Plan. The Conservation Section and Recreation and Parks Section are of such an interlinked nature that they must be considered part of the Open Space Section and thus have been combined with the Open Space Section, forming a "super-element."

<i>Issue</i>	<u>CONSERVATION SECTION</u>
<i>Goal</i>	<i>It shall be the goal of the City of Redondo Beach to:</i>
8A	Preserve and enhance the natural environment and resources of the community for the long-term benefit and enjoyment of its residents and visitors.
<i>Objective</i>	<i>It shall be the objective of the City of Redondo Beach to:</i>
8.1	Create and implement means through which the use and management of the natural environment and resources of the community can be monitored and protected from damage or misuse.
<i>Policies</i>	<i>It shall be the policy of the City of Redondo Beach to:</i>
8.1.1	Monitor, protect, and ensure the stability of the public beach area, the availability of open sand area available for public use, and the safety of beach structures from damage by wave action or erosion. New structures on the beach should not be built without an appropriate oceanographic survey of the beach area in question and the adjacent potentially-affected coastline.
8.1.2	Monitor and mitigate future harbor dredging operations that are necessary to keep the harbor clear for navigation and use without contributing to deteriorated physical and environmental conditions along the beach and waterfront areas, thereby minimizing the potential short-term and long-term environmental impacts of such activities.
8.1.3	Maintain strong positions on and continually monitor the implementation and enforcement of water quality regulations by appropriate County, State and Federal agencies to prevent additional pollution of the City's aquatic and intertidal environments.
8.1.4	Continue to evaluate (and mitigate) the effects of domestic and industrial wastes on living marine resources, through the conduct of objective biological studies performed by appropriate regulatory agencies and implementation of recommended mitigation measures by property owners or facility operators, to ensure the protection and viability of these biological communities.
8.1.5	Continue to monitor the pollution of the City's small boat harbor and marinas and enforce instituted protective regulations for violations of these regulations, in order to keep water pollution at a minimum. Strict and increased enforcement programs of these protective measures will assist in minimizing this pollution.

- 8.1.6 Continue to seek viable and environmentally-sensitive alternatives to the present use of automobiles as the primary means of public access to the beach area. Some of the available alternatives include public and private transit services, bikeways, and public walkways to the beach area.
- 8.1.7 Maintain and expand public access to the beach and waterfront area beyond present levels, to the extent possible and practicable. Plans for additional public park facilities at Mole B should be carried out and additional coastal bikeways provided. Maintenance and enhancement of water-oriented visual corridors would enhance the overall aesthetics of the area and attract additional users.
- 8.1.8 Heated water discharge operations at the Southern California Edison Company Electricity Plant should be monitored on a regular basis by the appropriate local, regional, and federal government entities, with changes given immediate attention and violations mitigated, to avoid the possibility of significant marine biological damage.
- 8.1.9 Encourage the Southern California Edison Company to research, utilize, and implement all known means and devices by which a continued reduction of air and thermal pollutant emissions from the local electricity plant can be attained.
- 8.1.10 Require that petroleum extraction, refining, and transportation facilities located in the community be operated to respect the environment. Maximum protection must be afforded to areas surrounding these facilities (particularly adjacent residential areas), with respect to appearance, spillage, odor and noise.
- 8.1.11 Protect significant public views of the ocean and waterfront through the application of local ordinances.

Issue **RECREATION AND PARKS SECTION**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 8B Improve and enhance the overall quality of life and attractiveness of the City of Redondo Beach through the provision of public recreational facilities, recreational and educational programs, and parklands to the residents and visitors of the community.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 8.2 Provide an appropriate and varied system of recreational facilities, recreational and educational programs, and parkland in the community to meet the needs of the existing and projected local resident and visitor populations.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 8.2.1 Planning and policy-making in the community should be conducted in a two-tiered approach: 1) at the recreation planning area-level, most appropriately reflecting the unique characteristics of smaller community sub-areas; and 2) at a city-wide level.

Four recreation planning areas should be used for this purpose, including: Area One: North Redondo Beach, from Marine Avenue south to Artesia Boulevard; Area Two: Artesia Boulevard south to 190th Street and Anita Street; Area Three: South Redondo Beach from 190th/Anita Streets south to Torrance Boulevard; and, Area Four: Torrance Boulevard south to the City of Torrance municipal boundary. Planning by recreation area will assure a more equitable and appropriate distribution of resources, and will more accurately reflect the different demographic conditions and related recreational needs of each area.

- 8.2.2 Additional regional and city-wide parks and recreation facilities should be developed where opportunities exist through the upgrading or conversion of existing open space areas and the acquisition and conversion of additional public or quasi-public property in the community (schools, utility rights-of-ways, etc.).

- 8.2.3 The City of Redondo Beach should continue to implement creative and varied park design throughout the community to provide appropriate responses to changing needs, preferences and technologies, and to provide variety in the recreational experience.

- 8.2.4 Future land acquisition for park properties should be carried out on a selective, proactive basis (rather than on a reactive basis) as property becomes available. These acquisitions should be directly related to accommodation of specific recreational needs of the community. The expansion of existing park acreage through the acquisition of neighboring parcels should be given priority over the acquisition of new, independent sites.

- 8.2.5 City-wide park facilities should be fully evaluated and adjusted as necessary every three to five years, in order to respond to continuing demographic changes in the resident and user populations. Capital improvements and recreation and educational programs should continue to be evaluated annually as part of the standard local budgeting/operations review process.
- 8.2.6 Continued attention should be given to the recreational needs of families with children, despite a continuing decline in the population of children as a percentage of the overall resident population of the City of Redondo Beach. There is currently a lack of facilities for children in some areas of the community.
- 8.2.7 Continually monitor the growing recreational needs of young- to middle-aged adults and the senior population, due to the continuing increase of these age groups as a percentage of the overall resident population of the City, possibly through questionnaires in newsletters or brochures. Programs and facilities should be evaluated and modified as the needs of these age groups become apparent and change.
- 8.2.8 Open space and recreation facilities owned by the local School Districts are of absolutely essential importance to the residents of Redondo Beach as available resources, and should be used in meeting the recreation and open space needs of residents. The City of Redondo Beach should continue to coordinate with the local School Districts to assure that public accessibility in after-school hours is optimized in relation to recreation needs.
- 8.2.9 The existing program of joint-development of City recreation facilities on School District properties should continue. Cooperative agreements for the potential future use of surplus school sites for recreational purposes should also be undertaken in areas of greatest needs. Additional public use of facilities at the high school should also be encouraged. Policies for these shared-use functions should be established so that they are mutually beneficial to the City and the local School Districts.
- 8.2.10 Additional goals and policies should be created and implemented, for continual upgrading of the overall aesthetics and the quality of the leisure or recreational experience available in the community, through design of new facilities, rehabilitation/upgrading of existing facilities, and continuity of designed facilities. This approach is to be preferred over one which defers such activities until the collective effort-costs required are too costly or too late for the identified needs.

- 8.2.11 The specific goals, objectives and policies contained in the Circulation Element relating to bicycle and pedestrian circulation should be implemented. The earlier Bikeway Plan (1975), with the recently completed revisions to the plan, should be implemented to provide safe bicycle access and linkage to the harbor, commercial areas, parks, and beach areas as well as bikeways for neighborhood recreational bike riding.
- 8.2.12 Bicycle safety should be promoted through: a) educational instruction by the City of Redondo Beach Police Department in local school classrooms; b) the monitoring of bicycle accidents; and c) a strong enforcement program pursuant to the State of California Motor Vehicle Code. The primary causes of and solutions to bicycle/motor vehicle/pedestrian conflicts should be determined. Policies and laws regulating pedestrian use of designated bike paths should be reviewed and supported, if appropriate.
- 8.2.13 Park and recreation facility development and program implementation should be given funding and phasing priorities relating to the specific recreation needs of each recreation planning area, the changing demographic profile of the community, and or regional or city-wide needs. Highest priority should be given to the following: swimming facilities, neighborhood open space and playgrounds; picnic areas; automobile parking at parks; bikeway implementation, gymnasium facilities, adult-oriented programs; and public improvement at Mole B.
- 8.2.14 Appropriate soil and geotechnical studies (including toxicity determinations) should be completed at Dominguez Park in order to determine the potential of future development of the site for recreational purposes, including both facility construction suitability and plant growth suitability. Based upon the results of these studies, the park site should be developed to its fullest potential to meet the needs of surrounding neighborhoods as identified in this study.
- 8.2.15 Provision of additional public swimming facilities in the community should be given high priority. In addition to the provision of a new public pool facility at the former Aviation High School site, additional public swimming facilities should also be considered at the Franklin Park site or at Anderson Park in North Redondo Beach, and at Alta Vista Park in South Redondo Beach.
- 8.2.16 Playgrounds oriented to children (of all ages) should be given highest priority with additional high-priority consideration granted for adult use and open space enjoyment; new facilities should first be developed in known facility-deficient neighborhoods in the four recreational

planning areas of the City. These facilities would be developed as parkettes or mini-parks. Where feasible, these parks should be at least two standard parcels in size (12,000 to 15,000 gross square feet).

- 8.2.17 High priority should be placed on the development of expanded or new picnic areas throughout local parks. Potential picnic areas would include existing undeveloped portions of public parkland, beautified rights-of-way, and potential new park sites. North Redondo Beach should be given priority in this regard.
- 8.2.18 A plan for the reuse of the former Aviation High School site should be adopted. Future use of the existing on-site facilities should be considered, along with proposed new uses of the site as a Community Park, in order to serve the needs of the local community and adjacent corporate uses.
- 8.2.19 Provision of additional parking facilities should be considered and implemented, if deemed feasible, at Perry Park and Anderson Park in North Redondo Beach. A parking analysis for mitigating problems of peak use of these facilities should be conducted. Additional parking feasibility and provisions should also be analyzed at Veterans Park.
- 8.2.20 Provision of improved public access and development of a boat rental facility and passive use area should be developed at Mole B in King Harbor as a moderate to high priority. Public improvements at Mole B would provide greater public access to the harbor area for resident recreational use and provide additional rental sailboats to serve the increased demand for low/moderate cost sailing opportunities.
- 8.2.21 Provision of additional multi-purpose softball/baseball fields are a moderate priority item in North Redondo Beach, but should not adversely impact, or be developed in place of, passive recreation areas. Possible locations for these facilities include the former Aviation High School site, the Franklin Park site, and the Madison School.
- 8.2.22 Provision of additional and/or renovated night-lighted tennis courts should be considered a moderate priority item in North Redondo Beach. Possible sites for these facilities include the former Aviation High School site, surplus school sites in Recreation Planning Area Two, existing playfields, and Anderson Park.
- 8.2.23 Provision of additional passive use and open play areas should be given moderate to high priority in the development of parkland and open space areas (such as beautified utility rights-of-way). Adequate

areas of green space should be provided at local parks, in order to provide sufficient passive areas for individual or family relaxation.

- 8.2.24 Provision of jogging trails within parks and in utility rights-of-way should be given moderate priority for implementation.
- 8.2.25 The expansion of existing senior centers, particularly in North Redondo Beach, should be considered as a moderate priority, as the senior citizen population increases in size and in its percentage of the overall resident population.
- 8.2.26 Development of two new community recreation centers serving North Redondo Beach and South Redondo Beach should be considered only a moderate priority, although no such facilities currently exist. The two centers would, optimally, be located at park sites and would provide needed centralized recreation program classrooms/meeting rooms. The centers may also include such facilities as a gymnasium, pool, health facilities and courts. Potential sites for these facilities include the former Aviation High School site, Anderson Park, the Franklin Park site in Recreation Planning Area Two; and Alta Vista Park in Recreation Planning Area 4.
- 8.2.27 Continue to consider reuse opportunities and enhancement of the existing auditorium at the former Aviation High School site.
- 8.2.28 Beautification of existing utility and other underutilized public rights-of-way should be continued, as feasible. Their continued beautification is important for passive recreational use and to the aesthetic quality of the community. Railroad rights-of-way should be beautified and possibly used for bikeway or pedestrian purposes. Long monotonous expanses of turf within the Edison rights-of-way should be broken up at nodal points with the use of small tree clusters, turfed mounds, and passive park facilities such as benches and picnic areas. Linear trails should be provided for neighborhood use.
- 8.2.29 Expansion of recreation programs aimed at the young- to middle-aged adults and to the senior population should be given high priority. Specific programs should be expanded as demand increases. Anticipated classes where demand should increase, include: sailing; boating; aerobics, fitness; adult slow-pitch softball; dancing; tennis; and excursions to cultural or historic sites or events. The City should partially rely upon private enterprise to provide facilities for such sports as racquetball and for some health/conditioning programs which are typically found at nearby private health clubs.

- 8.2.30 Pre-school and Youth-Teen oriented programs should be continued and expanded (or deleted) as demand for recreational programs and classes change. Additional cultural arts programs should be considered, possibly in conjunction with the Redondo Beach City School District, to help round out the range of programs available to young people.
- 8.2.31 The City should encourage the development and operation of additional private recreational facilities in the community, in order to increase public recreation facilities and programs and supplement overall public expenditures for recreation.
- 8.2.32 Alternative recreational funding sources to supplement the General Fund should be examined to provide expanded revenue for new facilities and programs as well as ongoing operations and maintenance costs. Alternative sources for further investigation should include: 1) increased park development fees from residential construction; 2) increased user fees with particular attention to non-resident fees; 3) use of Certificate of Participation financing for park development; and 4) possible creation of park and recreation special benefit assessment districts.
- 8.2.33 City staff should continually monitor and maintain contact with national and state parks organizations to identify potential Federal and State grant programs and funding opportunities, and should coordinate funding application, lobbying and other activities to support implementation as appropriate.
- 8.2.34 Creation of Adopt-A-Park programs should be considered for the maintenance of smaller parks, or for the granting of limited commercial advertising rights at larger, more prominent parks. Such programs can significantly reduce the direct cost to the City of maintaining these parks.
- 8.2.35 Facility and program sponsorship and grants should be sought from private industry, trusts and foundations, and community groups for the support of public recreational facilities, programs, and activities where appropriate.
- 8.2.36 The City should continue to assist non-profit organizations, such as an "arts council", to sponsor community civic activities and to maintain or furnish additional facilities for use by the public.
- 8.2.37 The award of additional private concessionaire rights should be considered for new recreational and park facilities such as swimming

facilities or expanded sports/tennis complexes. The City should also examine the potential use of private maintenance firms to lower the direct cost of park maintenance.

- 8.2.38 The City shall conduct a study to determine the actions, costs, and efforts necessary to achieve local conformance with the requirements and standards set forth in the Americans with Disabilities Act of 1990, as they relate to the mandated retrofitting and alteration of existing public open space areas and recreational facilities to allow complete access to and use of these facilities by disabled persons.
- 8.2.39 As funding and other resources allow, the City shall implement any and all feasible alterations and retrofitting actions to public open space areas and recreational facilities, to bring such facilities into conformance with the requirements and standards set forth in the Americans with Disabilities Act of 1990.
- 8.2.40 Allow for the development of a public boat launching ramp and ancillary facilities within King Harbor.

Issue **OPEN SPACE SECTION**

Goal: *It shall be the goal of the City of Redondo Beach to:*

- 8C Improve and enhance the overall aesthetic value, perception, and appearance of the City of Redondo Beach through the provision and maintenance of local public open space.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 8.3 Work within the context of the City's urban character and function to ensure that adequate, attractive, and practical open space opportunities are available for use and enjoyment by the resident and visitor populations of the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 8.3.1 Ensure that the various goals, objectives, and policies contained within the Conservation and Recreation and Parks Elements are consistent with those of the Open Space Element, as all of these elements include provisions relative to the provision of facilities areas, programs, resources and objectives common to the concept of open space.
- 8.3.2 Increase the awareness, responsibility, and participation of the private sector community and residents in assisting the City of Redondo Beach

in monitoring and maintaining the open space resources of the community.

- 8.3.3 Continue to pursue the acquisition and development of property for public use, to further enhance the variety and quality of the open space resources and leisure experiences available in the community.
- 8.3.4 Designate and maintain all appropriate major and secondary highways in the community as integral parts of the open space system (related to visual enjoyment and aesthetics).
- 8.3.5 Establish consistent street furniture regulations, restrictions on signage (including billboards) and overhead powerline restrictions, theme lighting, specific building setback lines, and landscape requirements through the creation and implementation of streetscape design improvements within the context of the City-wide Urban Design Plan contained within the Land Use Element of the General Plan.
- 8.3.6 Require private contributions and dedications to the City's open space system through the integration of public open space and other public spaces within larger-scale development projects and large off-street parking sites. Specific policies and requirements shall be provided in and coordinated through the proposed city-wide Urban Design Plan.
- 8.3.7 Develop a Master Plan of Parkway Beautification for use in implementing the proposed city-wide Urban Design Plan. Particular emphasis should be placed on the civic center area, arterial streets used to access the harbor and beach areas, and Pacific Coast Highway, as well as other major "gateway" and "corridor" arterials which identify the community's image to visitors and residents.
- 8.3.8 Institute improved signage control for key public view areas and important access corridors of the community, with particular emphasis given to Pacific Coast Highway, and other major arterial roadways.
- 8.3.9 Continue to work with the Redondo Beach City School District and South Bay Union High School District to enhance and develop joint-use public open spaces as an important component of and major contributor to the City's open space system.

3.4.6 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Conservation, Recreation and Parks, and Open Space

Sections of the General Plan. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

Conservation Section

- City of Redondo Beach Department of Public Works and City of Redondo Beach Harbor Department officials shall work with the United States Army Corps of Engineers, the United States Coast Guard, and the County of Los Angeles Department of Public Works to monitor and protect physical and environmental conditions in the local waterfront area. Dredging or other waterfront area construction activities shall be carried out only if necessary, and shall be preceded by detailed and specific geotechnical and oceanographic analyses, to ensure the safety and stability of existing structures and landforms, to limit erosion, and to maintain safe and effective means of navigation (*Policy 8.1.1, 8.1.2*).
- City of Redondo Beach Department of Public Works and City of Redondo Beach Harbor Department officials, in cooperation with California Water Service Company and Los Angeles County Department of Public Works officials, shall continue to monitor and analyze local waterfront and ocean water quality conditions (specifically including heated water discharged from the Southern California Edison Company Power Plant). When contamination sources or pollutants are identified, appropriate, timely, and effective actions shall be taken to clean the source and prevent further pollution and potential damage to aquatic/biologic resources, and the intertidal environment, in accordance with Federal and State law (*Policy 8.1.3, 8.1.4, 8.1.5, 8.1.8*).
- The City of Redondo Beach Department of Public Works and City of Redondo Beach Harbor Department shall ensure that all Federal, State, and local regulations and ordinances related to pollution and "human activity" impacts in the waterfront are continued to be fully and effectively enforced, to reduce water pollution and environmental damage (*Policy 8.1.3, 8.1.4, 8.1.5*).
- In accordance with more detailed policies and implementation programs contained within the Transportation and Circulation Section of the updated General Plan, the City of Redondo Beach shall aggressively pursue and implement, as feasible, alternative (and more environmentally sensitive) means of transportation and access to and from the beach area. The potential means pursued should include, but not be limited to the following: privately-sponsored mass/pooled transit, publicly-sponsored mass/pooled transit, bikeways, and walkways (*Policy 8.1.6, 8.1.7*).

- Public access (physical and visual) and public open space in the waterfront areas shall be actively maintained and expanded, wherever possible (in accordance with the plans and programs specified within the Recreation and Parks Section of the updated General Plan). Focus should also be placed on the preservation and expansion of east-to-west water-oriented view corridors (*Policy 8.1.7*).
- City of Redondo Beach Community Development (Planning) Department staff and Department of Public Works staff representatives shall continue to actively monitor the performance and impacts of the existing Southern California Edison Company Power Plant related to air and thermal (water) pollution impacts, and shall meet and work with Southern California Edison Company officials on a regular basis, to suggest (and/or require where possible) the installation of additional mitigation measures and or operational regulations which will further lessen or eliminate these impacts on the community (see similar policies and implementation programs located in the Noise Section of the updated General Plan related to this issue) (*Policy 8.1.8, 8.1.9*).
- The City of Redondo Beach Community Development Department shall, through conditions mandated in the local design and environmental review and approval process, building inspection and citation process, and conditional use permit issuance and renewal process, ensure that all above-ground petroleum extraction and transportation facilities in the community are designed, constructed, operated, and maintained in an environmentally-sensitive and aesthetically-pleasing manner, focusing on the impacts of visual appearance, spillage, odor, and noise (see similar policies and implementation programs located in the Utilities Section of the updated General Plan related to this issue) (*Policy 8.1.10*).
- The City of Redondo Beach Community Development (Planning) Department, through the analysis for the urban design program specified within the Land Use Section of the updated General Plan, shall include appropriate policies and ordinances to protect and preserve significant public views from physical encroachment by future development. (*Policy 8.1.11*).

Recreation and Parks Section

- The City of Redondo Beach should continue to use the established four-district geographic recreation planning area, to better accommodate and reflect the unique character and recreational needs of these areas within the overall community, and to assure a basic equity in the dispersal of recreational resources (*Policy 8.2.1, 8.2.13*).

- As opportunities and fiscal resources allow, the City should attempt to upgrade existing parks and recreational facilities and sites and convert additional publicly-owned and quasi-publicly owned property, as a primary means of expanding and improving the amount and variety of recreational opportunities without enduring the significant capital expenditures of acquiring private land or building entirely new facilities (*Policy 8.2.2, 8.2.3, 8.2.10, 8.2.13*).
- The design of new and modified park and recreational facilities should continue to be based on the changing needs, preferences, and technology, in order to better respond to evolving demographics and desires of the City's residents and provide a more varied array of recreational programs, facilities, and experiences in the community (*Policy 8.2.1, 8.2.3, 8.2.10, 8.2.13, 8.2.29, 8.2.30*).
- City of Redondo Beach Recreation and Community Services Department and City of Redondo Beach Community Development (Planning) Department staffs shall, within one year of adoption of the updated General Plan, undertake an analysis targeting and prioritizing local sites for acquisition as park and recreational uses, based on the results of demographic surveys and community need. Expansion and acquisition of property adjacent to existing facilities shall be given priority, over the acquisition of entirely new sites (*Policy 8.2.2, 8.2.4*).
- The City of Redondo Beach Recreation and Community Services Department shall formally review and update the Conservation, Recreation and Parks, and Open Space Sections of the General Plan, at least every three years, to respond to changes in the demographic, fiscal, and environmental conditions in the community and respond to specific needs that become apparent over these time periods. Specific capital improvements and programs shall be formally evaluated on an annual basis, as part of the existing local budgeting/operational review process (*Policy 8.2.5, 8.2.13*).
- Additional formal attention in local park and recreational facility planning and resource allocation should be placed on monitoring and responding to the specific needs and desires of local demographic (age) groups (including young children, families [as units], young-to-middle aged adults, and senior citizens). Programs and facilities should be evaluated and modified, as possible, to meet changing demographic trends and demand, in order to improve the efficiency and popularity of use of local recreational resources (*Policy 8.2.6, 8.2.7, 8.2.13, 8.2.29, 8.2.30*).
- Continue and attempt to expand the previously-successful coordination, planning, and operation of shared-use or joint-use recreational and open space facilities between the City of Redondo Beach and the local primary and

secondary school districts as a significant local recreational resource. Formal agreements and understandings should be executed and agreed upon, where possible, to better define the relationship and understanding between the entities and the exact usage of specific facilities and sites (*Policy 8.2.8, 8.2.9, 8.2.30*).

- The components of the Transportation and Circulation Section of the updated General Plan related to bicycle and pedestrian circulation shall be fully implemented and linked/integrated with local recreational facilities and areas, to expand such opportunities (*Policy 8.2.11*).
- Specific attention and programs should be implemented through the City of Redondo Beach Police Department, to improve bicycle safety and operation. Important means of these programs shall include: presentations and visits to local school populations, rigid enforcement of the State Motor Vehicle Code as they relate to bicycle/pedestrian/vehicular operation. Specific revisions to policies regulating pedestrian use of bicycle paths shall be implemented to improve overall operational and safety conditions (*Policy 8.2.11, 8.2.12*).
- In accordance with the goals, objectives, policies, and priorities put forth by the residents of the community and the City of Redondo Beach Recreation and Community Services Department, and local school districts, the following menu/list of additions, expansions, improvements, modifications, studies, plans and other activities related to the local parks, recreation, and open space systems and programs shall be pursued (*Policy 8.2.14, 8.2.15, 8.2.16, 8.2.17, 8.2.18, 8.2.19, 8.2.20, 8.2.21, 8.2.22, 8.2.23, 8.2.24, 8.2.25, 8.2.26, 8.2.27, 8.2.28, 8.2.29, 8.2.30, 8.2.31, 8.2.35*).
 - Completion of soil studies and planning efforts to increase the potential and development of Dominguez Park as a suitable facility (*Policy 8.2.14*).
 - Provision of additional public swimming facilities, including sites such as the former Aviation High School, Franklin Park, Anderson Park, and Alta Vista Park (*Policy 8.2.15*).
 - Provision of additional children's playgrounds (including mini-parks and parkettes), located within or as close to residential areas as possible, to improve safety and increase efficient use (*Policy 8.2.16*).
 - Provision of additional family picnic areas, particularly in undeveloped or underutilized areas of existing park and open space facilities, particularly in North Redondo Beach (*Policy 8.2.17*).

- Adopting a comprehensive and formal plan for the reuse of the former Aviation High School site (specifically including the use of the auditorium facility on site), focusing on use of the existing facilities on the site (*Policy 8.2.18, 8.2.27*).
- Provision of additional parking facilities and conduct of parking feasibility and demands studies at Perry Park, Anderson Park, and Veteran's Park (*Policy 8.2.19*).
- Provision of additional public access and boat rental facilities at the ongoing Moonstone Park/Mole B site (*Policy 8.2.20*).
- Provision of additional multi-purpose softball/baseball fields in North Redondo Beach. Specific potential sites for such facilities shall include: the former Aviation High School site, the Franklin Park site, and the Madison School site (*Policy 8.2.21*).
- Provision of additional and/or renovated lighted tennis courts in North Redondo Beach. Specific potential sites for such facilities shall include: the former Aviation High School site, surplus school sites, and the Anderson Park site (*Policy 8.2.22*).
- Provision of additional passive use open space and green spaces (including additional beautified electric rights-of-way, including setting aside specific areas within existing parks and open space areas (*Policy 8.2.23*).
- Provision of jogging trails in and through existing parks and utility rights-of-way (*Policy 8.2.24*).
- Expansion of existing senior centers or creation of new senior citizen facilities, as the needs and percentage of this segment of the resident population increases (see the Senior Citizen Services Section of the updated General Plan for more detail on this subject) (*Policy 8.2.25*).
- Provision of two new community recreation centers (one in North Redondo Beach and one in South Redondo Beach), perhaps within existing park or recreation sites or facilities. Centralization of location to serve the greatest number of residents shall be an important factor in the planning and siting of such facilities (*Policy 8.2.26*).
- Beautification and enhancement of utility and other underutilized public rights-of-way, as feasible and safe; bicycle and pedestrian use

and integration shall be a priority, as well as landscaping and architectural design improvements (*Policy 8.2.28*).

- Increasing the participation of the private sector in the provision of public recreational and open space services and programs. This may include corporate donations, subsidies, grants, and scholarships to private facilities and health clubs (*Policy 8.2.29, 8.2.35*).
- Encouraging the development and operation of additional private recreational facilities in the community to supplement public facilities and conserve public expenditures (*Policy 8.2.31*).
- City of Redondo Beach Recreation and Community Services Department staff shall continue to formally explore means of securing new funding sources and funds to supplement existing local recreation, parks, and open space capital and operational budgets, including increasing development fees, user fees, benefit assessment districts, and Federal and State grant programs (*Policy 8.2.32, 8.2.33*).
- City of Redondo Beach Recreation and Community Services Department staff shall formally study and consider the implementation of an Adopt-A-Park program with local businesses and organizations for the maintenance of parks and recreational facilities, which could include the granting of limited commercial advertising rights in larger facilities (*Policy 8.2.34*).
- The City of Redondo Beach shall continue its policy of allowing and encouraging the sponsoring and hosting of civic activities and events by local non-profit organizations in community recreational and open space sites or facilities, to increase the public use and enjoyment of these facilities and allow for the continued operation, growth, and success of these worthy organizations (*Policy 8.2.36*).
- The City of Redondo Beach Recreation and Community Services Department shall formally examine the award of additional private concessionaire rights to serve recreational and park facilities (particularly in swimming facilities and sports/tennis complexes) (*Policy 8.2.37*).
- The City of Redondo Beach Recreation and Community Services Department shall formally examine the contracting of private firms to carry out the maintenance of local public recreational and open space facilities, if it can be demonstrated that such an action could improve the efficiency of such services and/or lower the overall costs of such services (*Policy 8.2.37*).
- The City of Redondo Beach, through the Recreation and Community Services Department and Community Development (Planning) Department, within

one year of adoption of the updated General Plan, shall study the financial and operational ramifications of bringing the City's recreational and open space facilities into conformance with the requirements and provisions of the Americans with Disabilities Act of 1990. As funding and other resources allow, the City shall implement all actions necessary to bring local facilities into conformance with the law (*Policy 8.2.38, 8.2.39*).

Open Space Section

- Formally review all goals, objectives, policies, and specific actions and programs implemented in association with the Conservation Section and Recreation and Parks Section to ensure consistency with those included in the Open Space Section of the updated General Plan (*Policy 8.3.1*).
- City of Redondo Beach Recreation and Community Services officials shall conduct formal meetings, presentations, and other means of communication with local private sector businesses and local residents to increase awareness and participation of these groups in local recreational and open space planning, monitoring, and maintenance. This effort should include the videotaping of a session to be played on a regular basis on the local government access cable television system, as overall program scheduling allows (*Policy 8.3.2*).
- City of Redondo Beach Recreation and Community Services Department and City of Redondo Beach Community Development (Planning) Department staffs, based on the study mandated in Policy 8.2.4, shall pursue the acquisition and development of local land for park and recreational uses, based on the results of demographic surveys and community need. Expansion and acquisition of property adjacent to existing facilities shall be given priority, over the acquisition of entirely new sites (*Policy 8.3.3*).
- All appropriate local major and secondary highways shall be designated and included within the City's inventory of recreational and open space resources, as a reflection of their importance and value in the visual and aesthetic palette of the City of Redondo Beach (*Policy 8.3.4*).
- The urban design plan specified in the Land Use Section of the updated General Plan shall include specific policies and improvements related to the establishment of consistent requirements and restrictions for street furniture, signage (including billboards), elevated powerlines, building setbacks, landscaping, and private development sites. This plan shall include a Master Plan of Parkway Beautification component, focusing upon major public rights-of-way which function as major gateways and corridors in the community [including the Civic Center, Pacific Coast Highway, and the Harbor/Pier Area (*Policy 8.3.5, 8.3.7, 8.3.8, 8.3.6*).

- The City of Redondo Beach Department of Recreation and Community Services staff and Community Development (Planning) Department staff, through monitoring and participating in the design review and environmental review process, shall acquire additions to the City's public recreational and open space system through the dedication of areas in larger-scale development projects and larger off-street parking facilities to serve as useable recreation/open spaces and related public spaces (atriums, plazas, courtyards, etc.) (*Policy 8.3.6*).
- Continue and attempt to expand the previously-successful coordination, planning, and operation of shared-use recreational and open space facilities between the City of Redondo Beach and the local primary and secondary school districts as a significant local recreational resource. Formal agreements and understandings should be executed and agreed upon, where possible, to better define the relationship and understanding between the entities and the exact usage of specific facilities and sites (*Policy 8.3.9*).

SECTION 4.0

Environmental Hazards / Natural Hazards

SECTION 4.1

Geologic / Seismic Hazards

4.1 GEOLOGIC AND SEISMIC

The following report and analysis on the geologic and seismic conditions in the City of Redondo Beach is based on a compilation of existing published and unpublished documents, reports, and papers obtained from the U.S. Geologic Survey (USGS), U.S. Soil Conservation Service, U.S. Army Corps of Engineers, State of California Division of Mines and Geology, Geological Society of America, and numerous private geotechnical consulting companies. Results of this study are regional and general in nature, and are written to meet the adopted requirements of the State of California General Plan Guidelines, and the California Environmental Quality Act (CEQA) relative to the preparation of seismic safety components of Safety Elements.

This report is not intended to take the place of site-specific or project-specific geotechnical studies and analyses, which still must be carried out for individual projects, but is meant to provide a general framework for future land-use planning and environmental review, based on existing regional geological and seismic conditions. No original field work or geotechnical interpretations have been made in the preparation of this report. It is expected that future regional and site-specific geotechnical and engineering studies may modify the data presented herein. Modifications should be incorporated through periodic general plan amendments and information updates as required and deemed necessary by state law and local government bodies.

4.1.1 Regulations and Guidelines

California State Law, specifically Assembly Bill 890, Chapter 1255 and California Government Code Section 65302(1), establishes and requires that each city or county prepare and adopt a Safety Element as follows:

A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically-induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides...; subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, peakload water supply requirements and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

The significant geologic and seismic hazards with the potential to significantly impact the City of Redondo Beach include ground shaking and localized liquefaction susceptibility. Less significant potential geologic and seismic hazards include ground subsidence, localized slope instabilities, and tsunamis.

These hazards, and their potential impacts, were previously identified and analyzed in the tripartite Seismic Safety Element and Policies completed by Envicom Corporation in 1975 for the Cities of Redondo Beach, El Segundo, and Manhattan Beach. This report will build on and incorporate a portion of the material and data contained in that report. Updates and additions to the material contained in the 1975 study are included, based on new up-to-date geotechnical information and additional changes that have since occurred in planning and environmental guidelines and requirements.

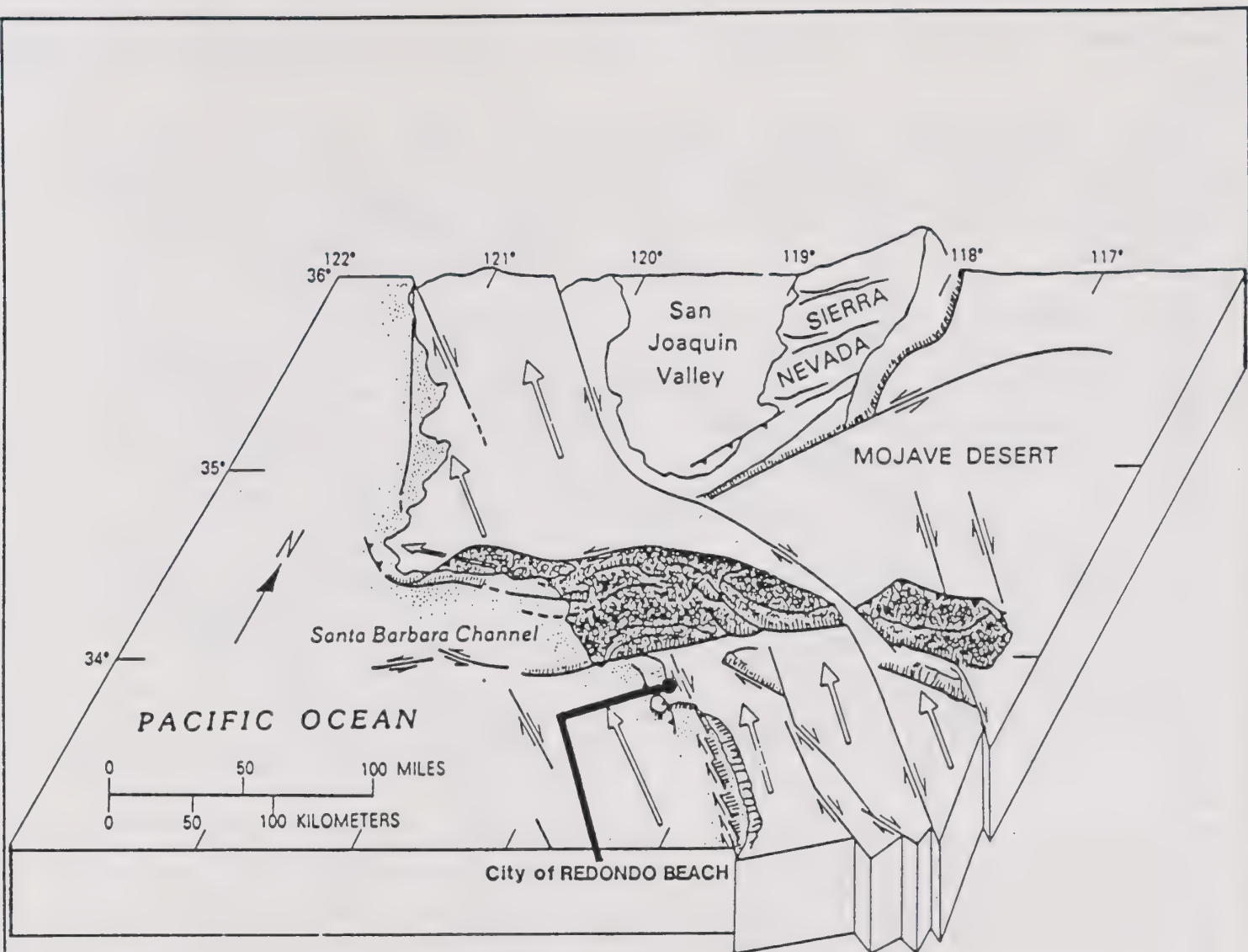
4.1.2 Geologic and Tectonic Setting

The basic geologic setting of Southern California is molded by plate tectonics, a global process involving the slow movement of very large plates of the earth's crust. These plates move relative to one another, at one another, and away from each other; their margins, produce earthquake activity and crust deformation. Where these plates slide past one another, large seismically-active fault systems such as the San Andreas and related faults may form, and in turn be responsible for earthquakes and deformation of the earth's surface.

The deformational processes presently operating in Southern California are dominated by the San Andreas and Transverse Ranges fault systems (Yerkes, 1985) (**Figure 27**). These deformational processes have been influencing the evolution of Southern California geology for close to five million years. From a land use planning perspective, these deformational processes are of primary concern to safe urban development since periodic earthquake activity can be anticipated to continue through the lifetime of buildings constructed today.

The City of Redondo Beach is situated within the western edge of the Los Angeles Basin, near the boundary of the Southern California Continental Borderland Geomorphic Province (**Figure 28**). The Los Angeles Basin is underlain by both marine and non-marine accumulations of gravel, sand, silt, and clay, that were deposited over time as a consequence of sea level fluctuations and erosion of the land masses north, east, and south of the Los Angeles Basin.

The youngest of these deposits, located on the ground surface within most of the local area, are the El Segundo Sand Hills. These deposits are comprised of Late Pleistocene into Holocene age (200,000 to 10,000 years before the present); they are moderately to poorly indurated, and are composed of sand, silty sand, and silt.



EXPLANATION

FAULTS

Solid where well known,
dashed where poorly known

REVERSE

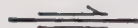


Scarp faces
viewer

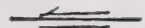


Scarp faces away
from viewer

STRIKE-SLIP

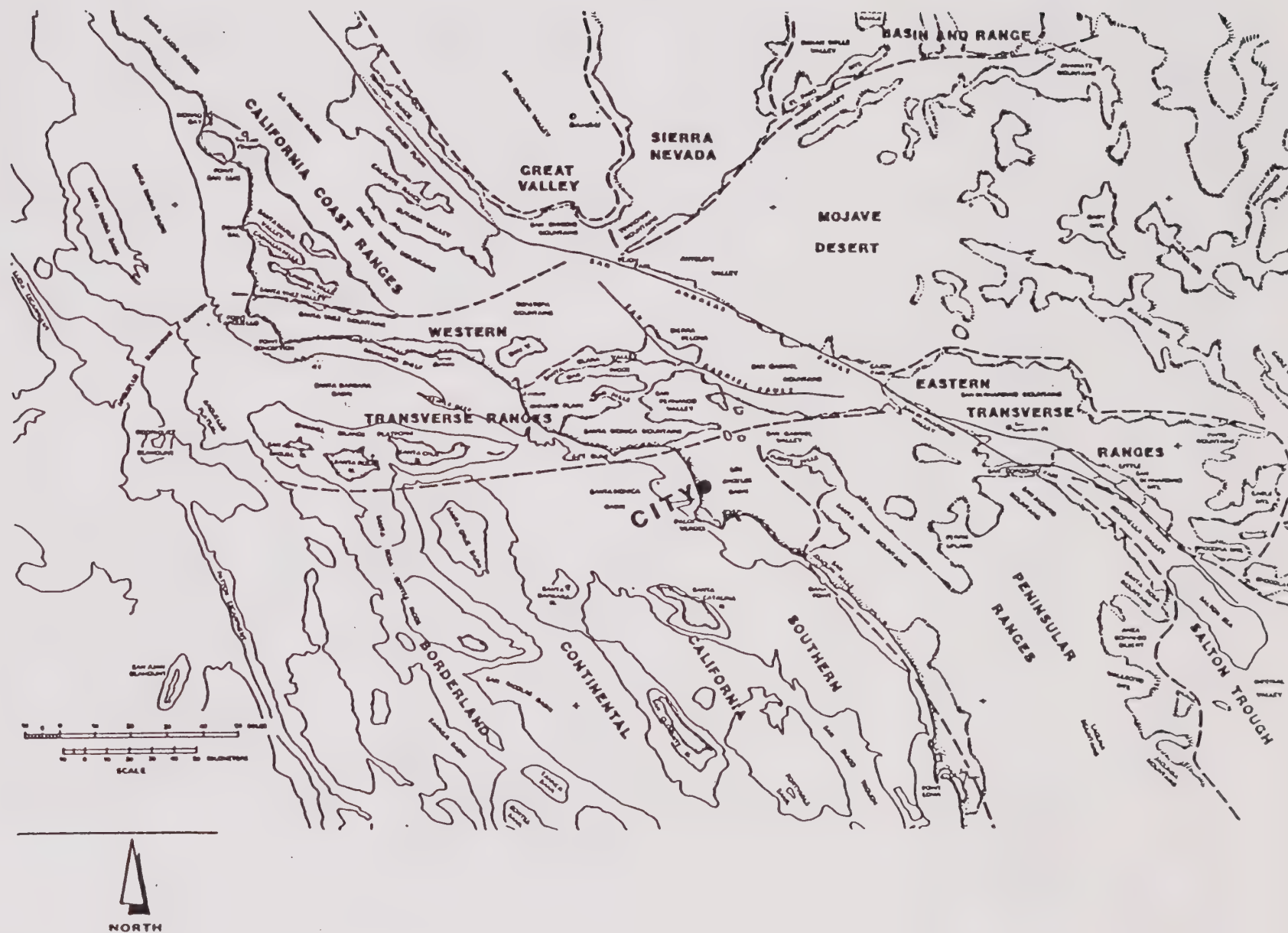


Right-lateral



Left-lateral

Present relative motions of crustal blocks. Blocks in the foreground move northwest with the Pacific plate and represent the Peninsular Ranges; those representing the Transverse Ranges (shaded) generally are bounded by reverse faults and prominent scarps. Modified from Anderson (1971).



PHYSIOGRAPHIC MAP OF THE WESTERN TRANSVERSE RANGES REGION

These materials were derived from extensive off-shore sand bars, and were deposited by strong on-shore winds during periods of lower sea level. The Sand Hills parallel the coast for approximately eleven miles from the Ballona Escarpment to the base of the Palos Verdes Hills, and extend from 3 to 6 miles inland (**Figure 29**). Maximum thickness of the Sand Hills is about 150 feet.

Directly underlying the El Segundo Sand Hills layer is the Upper Pleistocene Lakewood formation, consisting of marine and non-marine derived gravel, sand, silt, and clay (**Figures 29 and 30**). This formation is exposed in a very small area in the northeast corner of the City of Redondo Beach. No other geologic formations are known to have surface exposures within the local area.

4.1.3 Regional Fault Setting and Evaluation of Relevant Fault Activity

The City of Redondo Beach lies in a seismically active region where numerous faults are probably capable of generating moderate to large earthquakes (Ziony, 1985). The major faults are related to the San Andreas fault system which generate earthquakes as blocks on either side of the fault planes slide laterally past one another. Subsidiary faults, which may have developed from complicated stresses within the San Andreas system, generate earthquakes as blocks on either side of the fault planes slide up or down relative to each other.

One of the most critical and difficult steps in the evaluation of fault activity is the determination of whether or not faults in the planning area of study are "active" in the sense of producing a damaging earthquake. Generally speaking, active faults are those faults that are considered likely to undergo renewed movement within a period of concern to humans.

Faults that are currently slipping, that display earthquake activity, or that have had historical surface rupture clearly are active with respect to land use planning. However, except in the above clear-cut cases, it is difficult to differentiate with certainty faults capable of precise or predictable future movement and those that cannot move under the state of stress existing in a particular region (Ziony and Yerkes, 1985). Known active and potentially active faults have displayed a wide range of behavior, and the processes determining fault activity are only partially understood.

A common assumption used in the designation of a fault as active is that the more recent the faulting, the more likely any future movement. However, because different faults can lie dormant for different lengths of time before they rupture again, there is no universally applicable time span for evaluating regional fault activity. Both historical and geologic evidence suggests that some faults may remain dormant for hundreds, thousands, or tens of thousands of years between major displacements.



0 1 2
 Scale Miles

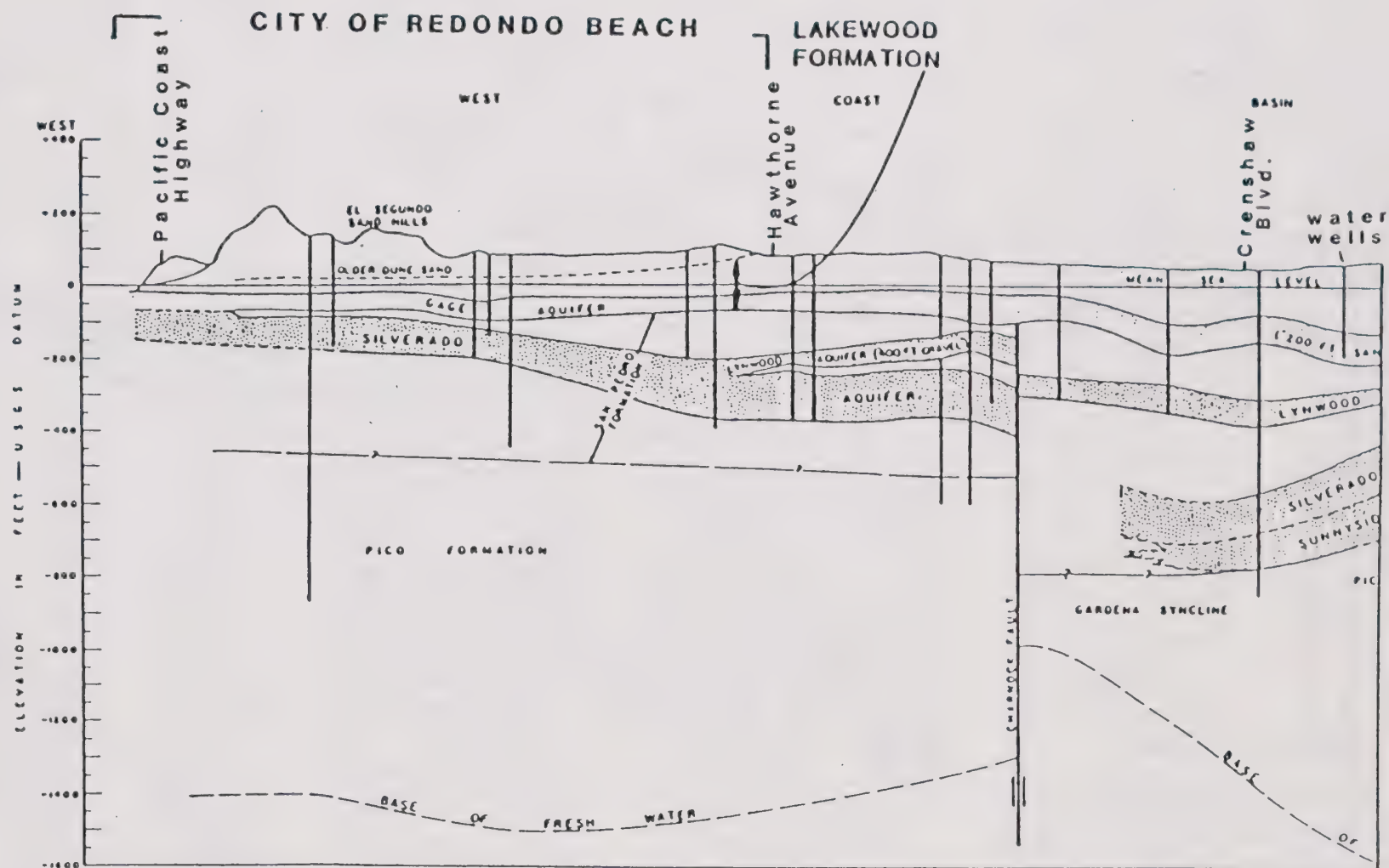
EARTH UNITS LEGEND:

- Qsr Active Dune Sand (Recent)
- QsQ Active Dune Sand (Upper Pleistocene)
- Qal Recent Alluvium
- Qlw Lakewood Formation (Upper Pleistocene)

(SOURCE: California Department of Water Resources Bulletin No. 104, Plate 3B)

REGIONAL GEOLOGIC SETTING

FIGURE
29



GENERALIZED GEOLOGIC CROSS-SECTION
 (Illustrating Surficial Earth Units, Bedrock Units, and Important Deep Aquifers)

(SOURCE: C.D.W.R. Bulletin 104, Plate 6B)

HORIZONTAL SCALE: 1"=4,500'

GENERALIZED COASTAL GEOLOGIC CROSS-SECTION

FIGURE
30

Investigations of earthquake history have demonstrated that earthquakes in Southern California do not occur randomly in time but instead occur regularly at approximately constant faulting recurrence intervals. This conclusion has led to the idea that particular fault segments will generate characteristic earthquakes of specific magnitude with a certain regularity.

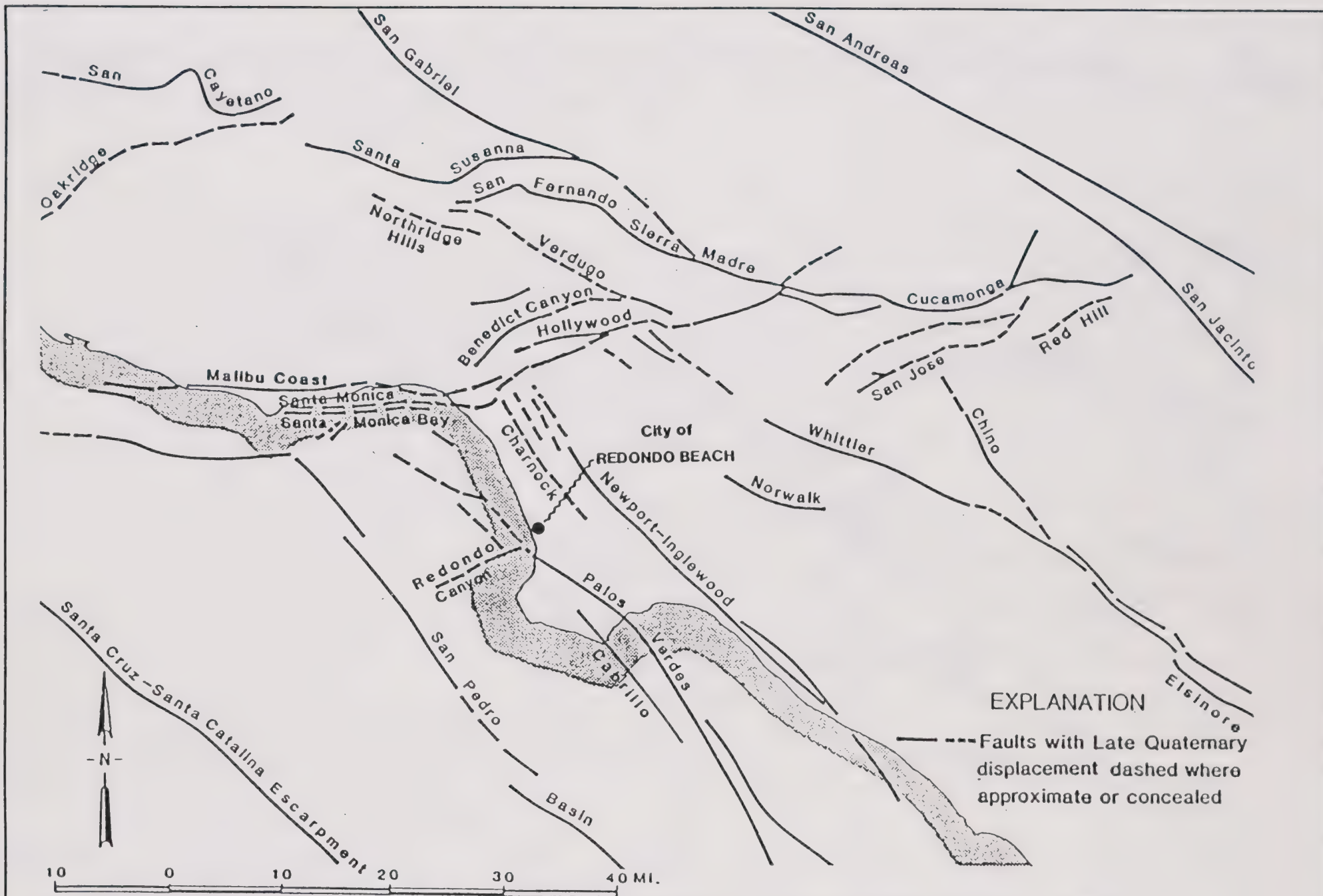
Generally, the probability of earthquake occurrence increases from year to year at a rate which depends upon how long it has been since the last earthquake occurred, amount of and length of displacement, and statistical uncertainties associated with the average length of the cycle.

The regional faults that may generate earthquakes that could affect the City of Redondo Beach are shown in **Figures 31 and 32**. Figure 32 is especially pertinent to the City of Redondo Beach, because of the close proximities of the offshore Redondo Canyon and Palos Verdes faults which have faulted Holocene and/or sea floor deposits. The faults in the above figures have been subdivided into categories of faults with historical surface rupture (past 200 years), faults with Holocene surface rupture (past 200 to 10,000-11,000 years), and faults with Late Quaternary surface rupture (past 11,000 to 750,000 years). Individual characteristics of these various faults are summarized in **Table 49**.

Regionally damaging earthquakes could also occur on other known faults in Southern California, but their distance from the planning area or magnitude limitations suggest that the resulting ground shaking and related damage would be less than is anticipated for the faults in **Table 49**. However, it is also very important to note that earthquake activity from unmapped subsurface faults is a distinct possibility that is currently not predictable. For example, the 1987 Whittier Narrows magnitude 6.1 earthquake occurred due to movement on a fault under the Los Angeles Basin that apparently had no surface exposure (Weber, 1987). In addition, detailed studies of offshore faults have been limited to about the last 15 years and will probably be refined and expanded in the future.

The earthquake magnitudes in **Table 49** represent an estimated range taken from a variety of sources. The uppermost magnitude shown is considered to be the maximum credible or design earthquake that might occur on a specific fault. The maximum credible estimated magnitudes are based on the 1/2 fault length method of fault rupture length correlations by Slemmons (1977 and 1982) and Bonilla et. al. (1984) (**Figure 33**), and by estimates by Ziony and Yerkes (1985). The common approach is to base estimates on the assumption that one-half of the total fault length can rupture in a single earthquake.

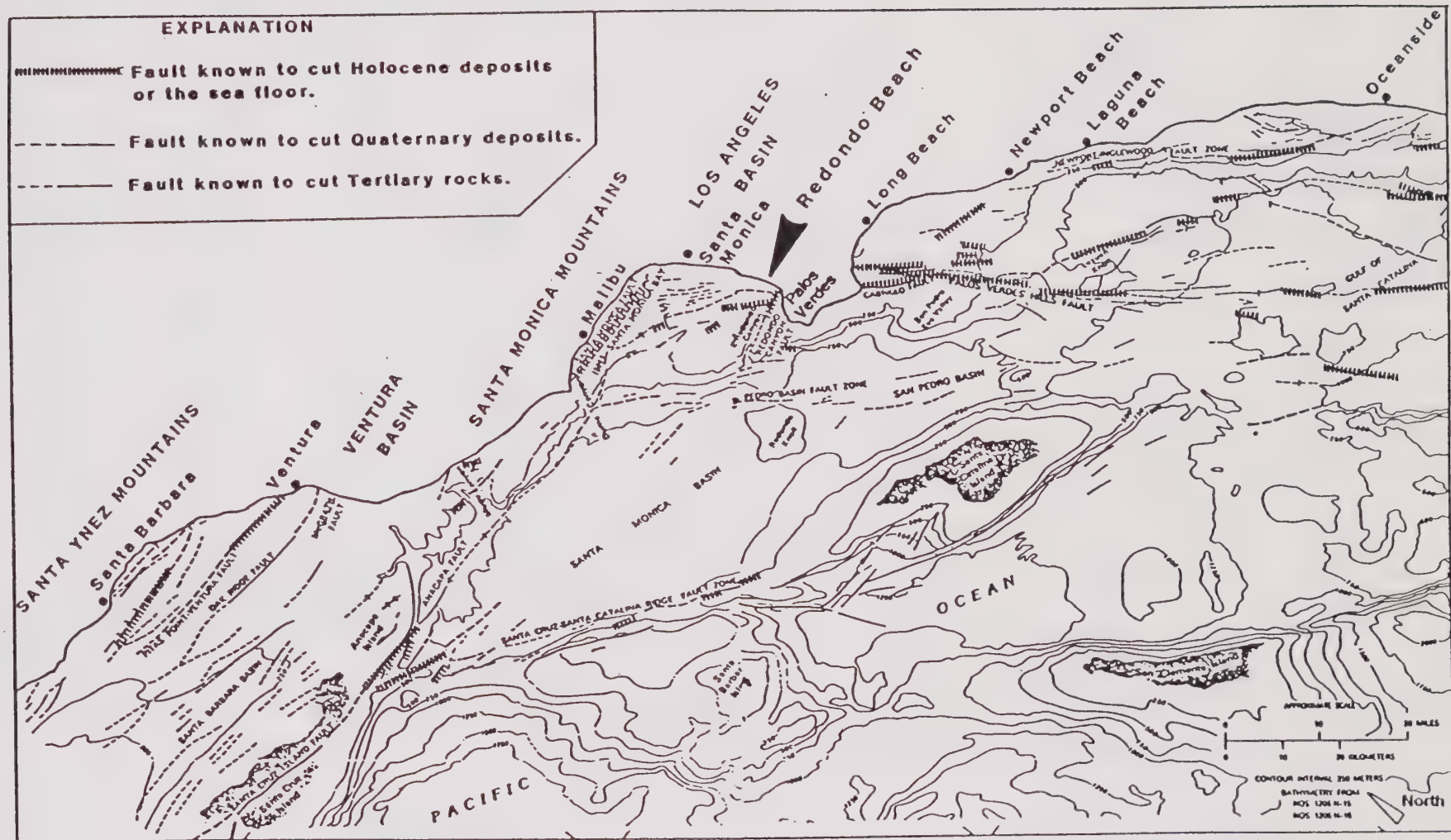
However, there is much uncertainty about what proportion of a fault will rupture in a single event, or the actual length of a fault, so resultant magnitudes must be viewed with caution (Ziony and Yerkes, 1985).



(SOURCE: Jennings, 1985, Crook, et.al., 1978, Hill, et.al. 1979, Clarke, et.al., 1985, Ziony and Yerkes, 1985, and Weber, et.al., 1980.)

PRIMARY REGIONAL FAULTS

FIGURE
31



(SOURCE: U.S. Geological Survey Professional Paper 1360, 1985.)

PRINCIPAL QUATERNARY FAULTS IN THE OFFSHORE LOS ANGELES REGION

**FIGURE
32**

TABLE 49

Characteristics and Estimated Earthquakes for Regional Faults

Fault Name	Level of Activity	Distance to City Center (~miles)	Fault Length (~miles)	Slip Rate (~mm/yr)	Maximum Historic Magnitude	Estimated Magnitude Range	Recurrence Interval (~magnitude/years)k M7	Ground Accelerations (~g's of gravity)a,k,l		
								M6.5	M6	
Elysian Park	Historic	11	50+	2	5.9?(1987)	7	?	?	0.35	
Cabrillo	Holocene	8	12	0.1	---	6.75a	>1500	>800	>400	
Palos Verdes	Historic	2.5	50	0.8	3.9(1972)	5j-7a	1200	600	300	
Redondo Cyn.	Holocene	2.5	8	---	small?l	6.5a	?	?	?	
Charmock	L. Quat.	4	6	---	---	6.4a	?	?	?	
Newport-Inglewood	Historic	6.5	45	0.5	6.3(1933)	6j-7a	1500	800	200-400	
San Pedro	L. Quat.	15	48	0.8g	---	7a	1200	600	300	
Hollywood-Raymond Hill	Holocene	15	25	0.2	?(1855)	5.5j-7a	1500	?	400	
Santa Monica-Malibu Coast	Historic	11	60	0.4	5.7(1973)	5.5j-7a,d	1500+	800+	400+	
Whittier	Historic	20	28	1-2	4.2(1976) 6.1(1987)?	5.5j-7a	200-900	?	20-40	
Elsinore	Historic	50	130	2.3	6.0(1910)	5.5j-7.5a	200-900	?	20-90	
Catalina Escarpment	L. Quat.?	35	80	0.8g	---	7a	1200	600	300	
San Fernando-Sierra Madre	Historic	30	36	1-4f	6.6(1971)	6.0j-7a	500	200	100	
San Andreas	Historic	52	650	36	8+(1857)	8.0j-8.5a,b	40-100M8	3-10M7	3-1M6	
San Jacinto	Historic	55	270	8h	7(1899)	6.0j-7.5a,b	400-1000M8	40-100M7	4-10M6	

General Sources: Envicom, 1975, 1986, 1988; Woodward Clyde Consultants, 1986, Ziony, 1985.

SUBSCRIPTS:

- a) Based on estimated rupture length and Slemmons, 1982.
- b) Based on historic seismicity.
- c) Crook and others, 1978; and Matti and others, 1982.
- d) Based on comparisons with the Sierra Madre fault.
- e) Hansen and others, 1988.
- f) Clark and others, 1984.
- g) Based on comparisons with the Palos Verdes fault.
- h) Sharp, 1981.
- i) Unknown, assumed to be 0.1 mm/year.
- j) Envicom, 1975.
- k) Lamar, 1973; Slemmons, 1982; and Ziony, 1985 for recurrence intervals.
- l) Ziony, 1985.

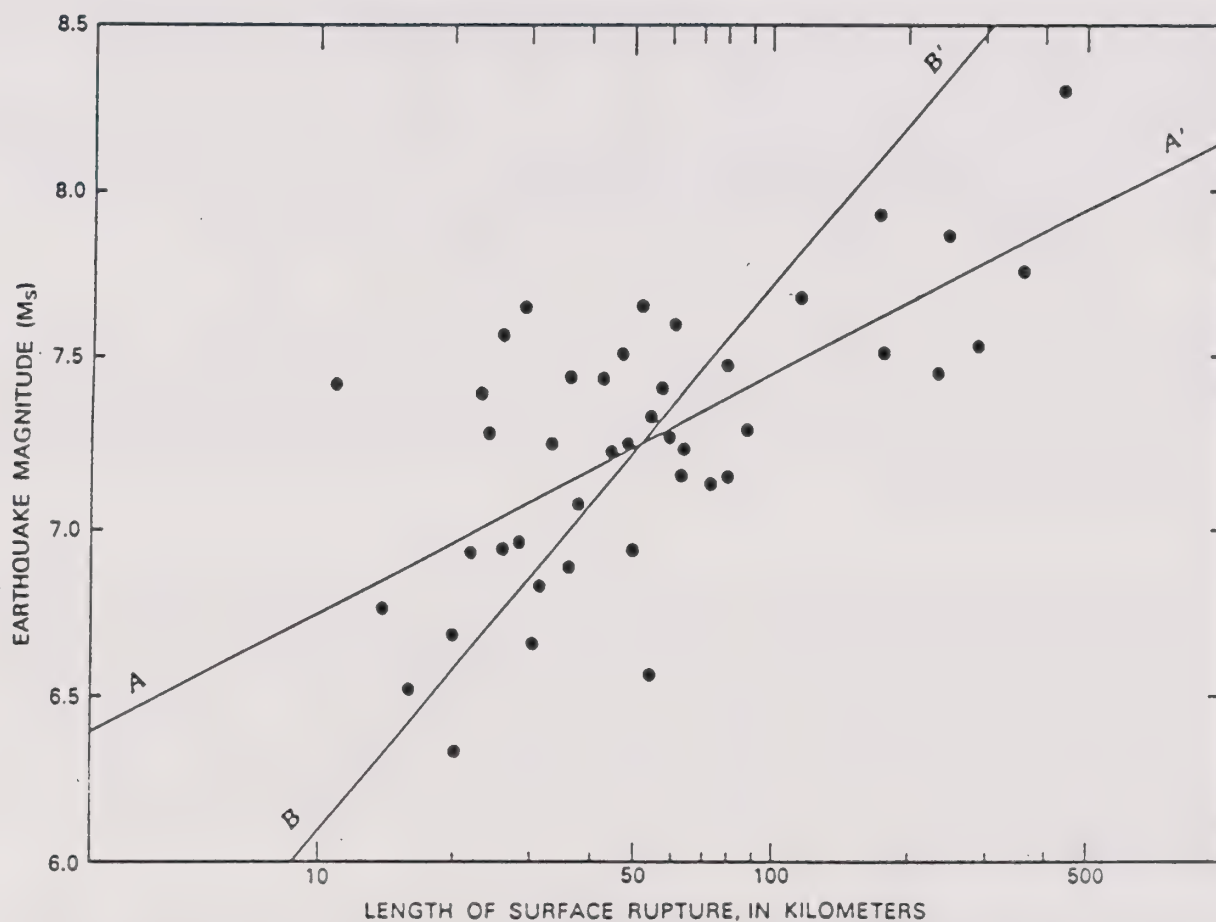
EXPLANATION:

RECENCY OF ACTIVITY

Historic: 0-200 years before present.

Holocene: 200-10,000 to 11,000 years before present.

Late Quaternary: Within last 750,000 years.



Length of surface-fault rupture of historical earthquakes worldwide in relation to magnitude for all types of faults (modified from Bonilla and others, 1984, fig. 1A). Because of the statistics involved in estimating maximum values, line A-A' is used to estimate the most likely earthquake magnitude associated with a given length of surface rupture, whereas line B-B' is used to estimate the most likely rupture length associated with a given earthquake magnitude.

(SOURCE: Ziony, 1985)

The relative threat of earthquake damage posed by a given fault is related to the magnitude of the generated earthquake, its distance from the City, its long-term slip rate, and the elapsed time since its last major earthquake.

The earthquake magnitude, distance, and subsurface geologic characteristics provide a measure of potential ground shaking (measured as ground acceleration) and damage done (measured as intensity) as discussed in a subsequent section. **Table 49** also shows the estimated average recurrence interval (where known) for earthquakes as correlated to the faults slip rate. In general, faults with lower slip rates or which produce earthquakes of higher magnitude, will have longer recurrence intervals between major earthquakes, whereas a higher slip rate or lower magnitude correlates with more frequent earthquakes (**Figure 34**).

Since long-term probability of an event is an imperfect measure of current earthquake potential, an event of long recurrence interval could still pose a significant earthquake threat if the elapsed time since the last event approaches or exceeds the average recurrence time. For many faults in the region, the elapsed time since the last earthquake is specifically unknown thus making earthquake predictions more subjective.

The following text describes the characteristics of the faults shown in **Figures 31 and 32** and summarized in **Table 49**. The Table 49 summary includes the level of activity which lists when the most recent fault movement probably occurred; the approximate distance to the center of the City of Redondo Beach; the approximate fault length; the approximate slip rate; the maximum historic earthquake; the estimated magnitude earthquake range; the approximated recurrence interval for magnitude 6.0, 6.5, and 7.0 earthquakes; and the peak ground accelerations for the estimated magnitude ranges.

The estimated earthquake magnitudes are shown as a range because the original determinations made in the 1975 Seismic Safety Element were also depicted as a range of magnitudes. The fault systems described below generally consist of two or more faults within the same structural trend and, by convention, are therefore considered as "systems."

Elysian Park Fault: Three years of recently observed seismic activity suggests that this newly discovered thrust fault trends at least 50 miles from Whittier to Malibu across the northern portion of the Los Angeles Basin. The fault does not apparently break the ground surface and is therefore difficult to detect without further study. The 1987 Whittier Narrows earthquake may have been along this fault trace. Earthquakes of magnitude 7 may be expected to be generated by subsurface movement of the fault (Los Angeles Times, June 14, 1989). The fault is located approximately 11 miles north of Redondo Beach.

**Average Recurrence Intervals for Earthquakes,
As a Function of Slip Rate***

<u>Slip Rate</u> <u>(mm/yr)</u>	<u>Recurrence Interval</u> <u>(Years) by Earthquake Magnitude</u>			
	<u>M 7</u>	<u>M 6.8</u>	<u>M 6.5</u>	<u>M 6</u>
0.5	1,500	1,200	800	400
1	900	650	400	200
2	500	300	200	100

*(After Slemmons, 1982; Actual average recurrence intervals may be longer, due to contributions of smaller earthquakes and other deformation processes.)

Cabrillo Fault: This fault consists of several strands that are an apparent splay from the Palos Verdes fault, and extend approximately 12 miles across the San Pedro shelf. The fault may deform Holocene sediments and has had numerous small earthquakes occur near its trace. The fault is considered active by Woodward Clyde Consultants (1986). The fault's slip rate suggests a recurrence interval for a magnitude 6.0 earthquake of greater than 400 years, however, no data are available as to when the last earthquake approaching that magnitude occurred. The fault is located approximately eight miles from the City.

Palos Verdes Fault: The Palos Verdes (or Palos Verdes Hills) fault extends from the Santa Monica-Malibu Coast fault in northern Santa Monica Bay southeastward across the Palos Verdes Peninsula and the San Pedro Shelf to the vicinity of Lasuen Knoll, a distance of more than 50 miles. Several strands of the segments of the fault offshore of San Pedro and the City of Redondo Beach are known to cut Holocene deposits on the sea floor (Clarke et. al., 1985). These segments of the fault would be considered active since they displace deposits younger than 10,000 to 11,000 years of age. The offshore segments of the Palos Verdes fault from its juncture with the Redondo Canyon fault to the vicinity of Lasuen Knoll is characterized by continuous to intermittent offsets of Holocene strata.

The presence of the Palos Verdes fault on the Palos Verdes Peninsula is indicated by vertical separation of the pre to Late Quaternary Catalina Schist basement rock and evidence of deformed strata of early to Late Pleistocene Age. A lack of faulted Holocene strata within the Palos Verdes Peninsula suggests that the fault has not been active in that area since Holocene time, however, as discussed above, the fault is considered to be active on either side of the peninsula so this currently potentially active segment is in structural continuity with other active segments to the northwest and southeast. A 3.9 magnitude earthquake was attributed to the fault in 1972 in the area south of San Pedro.

Earthquake magnitude ranges for the fault are from about 5.0 to 7.0 with recurrence interval for a magnitude 6.0 earthquake being about every 300 years. Data were unavailable indicating when the last 6.0 earthquake occurred. Segments of the fault across Santa Monica Bay, across the Palos Verdes Peninsula, and southeast of San Pedro, are all considered to be potentially seismogenic (Ziony, 1985). The fault is closest to the City of Redondo Beach where it cuts across Santa Monica Bay, approximately two and one-half miles southwest of the City.

Redondo Canyon Fault: This fault is approximately eight miles long and joins the main strand of the Palos Verdes fault near the shoreline off the City of Redondo Beach (Clarke et. al., 1985). A presumed single strand of the fault cuts the sea floor and Holocene deposits on the shelf south of the head of Redondo Canyon. Scattered small earthquakes have occurred near the fault. The fault is considered active with an estimated maximum credible magnitude of 6.5. Recurrence intervals were not available because of a lack of data regarding the slip rate.

Charnock Fault: The Charnock fault consists of two strands that cut Late Quaternary strata and leave no surface expression. The fault is about six miles long and is located about four miles north of the City. No recurrence interval data were available.

Newport-Inglewood Fault System: This fault system is over 45 miles in length and is located approximately 6.5 miles east of the City. The fault is considered active and was the source of the 1933 magnitude 6.3 Long Beach earthquake. It is less likely that the fault segment between Signal Hill and Newport Beach, which moved in the 1933 event will be the source of another major earthquake in the near future. However, it is possible that the 25 mile segment between Cheviot Hills and Signal Hill could produce a major earthquake event (Envicom Corporation, 1986).

San Pedro Fault: This fault is located approximately 15 miles offshore and consists of a series of strands that cut Late Quaternary strata. The fault length is about 45 miles, generally paralleling the coastline. Recurrence intervals for a magnitude 6.0 earthquake could be about every 300 years, however, actual dating of the last earthquake close to that magnitude is unknown.

Hollywood-Raymond Hill Fault System: This system extends in an east-west direction along the south side of the Santa Monica Mountains and may be continuous with the Raymond fault in the vicinity of Glendale. Holocene strata was faulted prior to about 1,600 years before the present. However, an 1855 earthquake may have occurred as a result of subsurface faulting. The fault is located about 15 miles north of the City. There is a high probability that this fault system is capable of generating damaging earthquakes (Real, 1987).

Santa Monica-Malibu Coast Fault System: These faults extend approximately 60 miles in an east-west trend from north of Santa Monica parallel to the coast and into the Santa Barbara Channel. The faults are located about 11 miles to the north of the City. The Malibu Coast segment of this system experienced a 5.7 magnitude earthquake in 1973.

Whittier Fault: The Whittier fault is approximately 28 miles long and is located about 20 miles east of the City. This fault may have been the source of the 1987 6.1 magnitude Whittier Narrows earthquake (Weber, 1987). Recurrence intervals on this fault are relatively short with 20 to 40 estimates for magnitude 6.0 earthquakes. The southerly extension of the fault probably merges with the Elsinore fault.

Elsinore Fault: The Elsinore fault is approximately 130 miles long and is located about 50 miles east of the City. The fault was the site of a 1910 magnitude 6.0 earthquake. Recurrence intervals are also relatively short with a 20 to 90 year recurrence for a magnitude 6.0 earthquake.

Catalina Escarpment Fault: This offshore fault is approximately 80 miles long and is located about 35 miles west of the City. Recurrence intervals are about every 300 years for a magnitude 6.0 earthquake. Late Quaternary deposits may have been faulted in the past.

San Fernando-Sierra Madre Fault System: This fault system is approximately 36 miles long and extends along the base of the San Gabriel Mountains from east of Sierra Madre to west of San Fernando. These faults are found about 30 miles north of the City. The San Fernando segment was the source of the 1971 magnitude 6.6 earthquake. Recurrence intervals are estimated at 100 years for a magnitude 6.0 earthquake.

San Andreas Fault System: This fault system forms the dominant geologic structure throughout most of western California and has been responsible for the largest recorded earthquakes in the region. Two of the State's largest historic earthquakes occurred along the fault system in 1857 near Fort Tejon and in 1906 near San Francisco. Both of these earthquakes have been estimated at 8+ magnitudes with surface displacements of 16 to 36 feet and fault rupture lengths of 200+ miles. Separate segments of the fault system appear to have ruptured during these seismic events.

The fault system segment between Parkfield and Cajon Pass, which produced the 1857 earthquake, currently has a very low level of seismic activity. Two different earthquake histories have been documented within the above segment. The portion from near Parkfield to Tejon Pass experiences great earthquakes of magnitude 8+ roughly every 250 years (Sieh and Jahns, 1984); whereas, the segment between Tejon Pass and Cajon Pass experienced major to great earthquakes (magnitude 7 and greater) on an average of every 145 years (Sieh, 1984). The latter segment last broke during the 1857 Fort Tejon earthquake 132 years ago.

The fault system segment between Cajon Pass and the Salton Sea has not experienced a major earthquake for a least 265 years and possibly for as long as 600 years. Various earthquake studies suggest that this segment may be the location for the next great earthquake in California with probabilities of between 2 and 5 percent per year or about 50 percent in the next 20 or 30 years (Wesson and Wallace, 1985).

Future earthquake predictions of magnitude and displacement cannot precisely be determined along the San Andreas fault system. Regional studies do, however, indicate that a magnitude 8.0 or larger earthquake could be expected to occur in the future and should be considered for planning and design purposes (Ziony and Yerkes, 1985). The closest these latter fault system segments come to the City is about 52 miles to the northeast. A major earthquake along this system should be considered a strong possibility and would produce ground accelerations of about 0.14 g within the City.

San Jacinto Fault System: Faults of this system display Late Quaternary to Historic activity with numerous small earthquakes evident near their traces. In terms of numbers of damaging earthquakes, this system has been the most prolific in historical time (Yerkes, 1985). At least 10 earthquake events have taken place from 1858-1980 over a fault length of 120 miles, with about half of these earthquakes causing damage in the San Bernardino-Riverside area. Recurrence intervals suggest a magnitude 6.0 within 4 to 10 years and a magnitude 7.0 within 40 to 100 years. The fault system's closest point to the City is about 55 miles to the east, therefore, even though a moderate earthquake magnitude could occur at any time the actual expected damage within the City would probably be quite small.

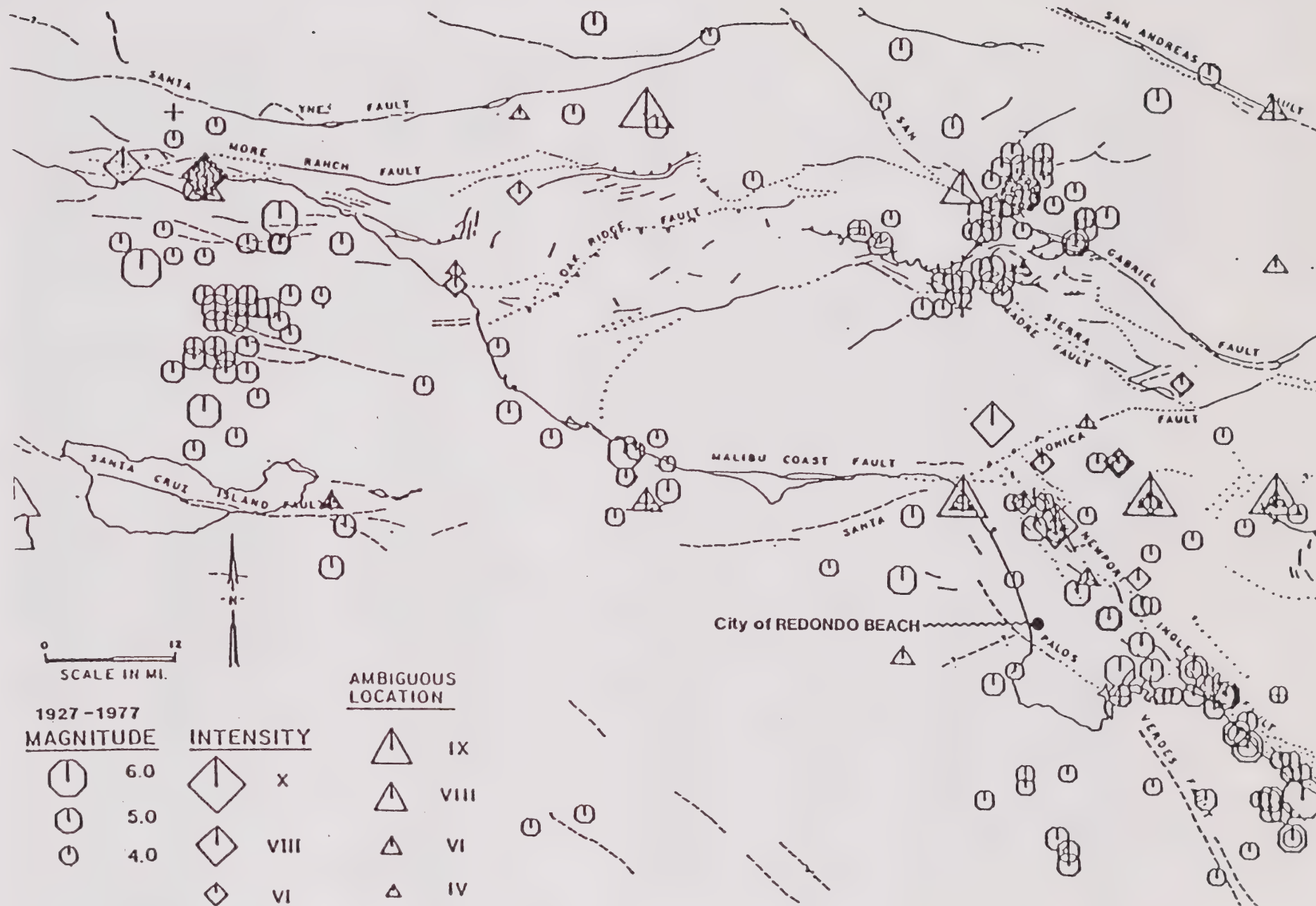
4.1.4 Localized Fault Rupture Potential

Currently no active or potentially active faults are known to exist within the City of Redondo Beach. The Redondo Canyon fault has a structural trend that would project on-shore in the vicinity of King Harbor, however, existing data suggests that the fault terminates very close to the shoreline (Clarke et. al., 1985). Earthquake epicenters from 1927 to 1977 also do not suggest seismic activity within the City limits (Figure 35).

4.1.5 Localized Ground Shaking Potential

The United States Geological Survey has proposed that faults in Southern California which show evidence of offset during Late Quaternary time (from 750,000 years ago to the present time) should be considered candidates for future seismic activity under the present tectonic setting (Ziony and Yerkes, 1985). They identify this as the appropriate time span in Southern California because:

- (a) Time spans of a few tens of thousands of years or less appear inadequate to judge fault activity. Large historical earthquakes and surface ruptures have occurred worldwide along some faults that lacked evidence of any historical or Holocene (past 10,000 to 11,000 years) activity.
- (b) Geologic evidence in and near the planning area suggests that major changes in the tectonic regime of Southern California took place in early Quaternary time, from 2,000,000 years up to 750,000 years ago. Many faults that were active under earlier stress regimes may not be active under existing stress field that began about 750,000 years ago.
- (c) Many of the Late Quaternary age geologic deposits in Southern California contain datable markers for evaluation of fault activity under the current stress field of the last 750,000 years.



(SOURCE: Woodward-Clyde Consultants, 1978 LNG Terminal Study.)

HISTORIC REGIONAL SEISMICITY PROFILE (1927-1977)

In this study, known faults exhibiting evidence of Late Quaternary (past 750,000 years) displacement or earthquakes are identified and are considered to be sufficiently active to be hazards for land use planning (Ziony, 1985). The location of most recent displacement, distance to the fault, potential earthquake magnitude, subsurface geology, depth to ground water and building construction are all important characteristics that can influence the degree of localized ground shaking and potential damage.

A summary of earthquakes in the region from 1927 to 1977 indicate varying degrees of existing seismic activity on the Palos Verdes, Newport-Inglewood, San Fernando-Sierra Madre, Santa Monica-Malibu Coast, Whittier, Elsinore, San Andreas, and San Jacinto faults (**Figure 35**). These and other faults in the region show evidence of Late Quaternary to Holocene displacement or earthquake activity and could be responsible for future localized ground shaking.

As seismic waves that are generated by fault displacement, pass through the earth's crust, the severity and duration of ground shaking at a particular site area depends on several factors including:

- Total energy released from a particular magnitude earthquake in the form of seismic waves.
- Distance from the source of the earthquake.
- Nature of the surface and subsurface earth materials including age, composition, density, thickness, and water content.
- Type and age of building materials.

The severity of ground shaking is commonly quantified by determination of peak and/or repeatable ground acceleration. Acceleration is a term describing the velocity transferred to earth materials by the passage of seismic waves originating from a particular magnitude earthquake. Numerically, acceleration is expressed as a fraction of gravity (g). The actual damage done in a particular area, resulting from the ground shaking and acceleration, is measured on the Modified Mercalli Intensity Scale (**Figure 36**).

In general, seismic waves traveling from more dense crystalline bedrock, through less dense sedimentary rock, into thick unconsolidated sediments and finally into water saturated alluvial deposits tend to become reduced in velocity and increased in amplitude. Resultant duration of ground shaking can therefore become greater. Ground shaking amplification may pose special problems to multi-story buildings since damage commonly can result when the length of time it takes for a seismic shock wave to pass through a building is coincident with the natural wave motion of the ground.

The Mercalli Intensity Scale

(As modified by Charles F. Richter in 1956 and rearranged)

If most of these effects
are observed

then the
intensity is:

If most of these effects
are observed

then the
intensity is:

Earthquake shaking not felt. But people may observe marginal effects of large distance earthquakes without identifying these effects as earthquake-caused. Among them: trees, structures, liquids, bodies of water sway slowly, or doors swing slowly.

I

Effect on people: Shaking felt by those at rest, especially if they are indoors, and by those on upper floors.

II

Effect on people: Felt by most people indoors. Some can estimate duration of shaking. But many may not recognize shaking of building as caused by an earthquake; the shaking is like that caused by the passing of light trucks.

III

Other effects: Hanging objects swing.
Structural effects: Windows or doors rattle. Wooden walls and frames creak.

IV

Effect on people: Felt by everyone indoors. Many estimate duration of shaking. But they still may not recognize it as caused by an earthquake. The shaking is like that caused by the passing of heavy trucks, though sometimes, instead, people may feel the sensation of a jolt, as if a heavy ball had struck the walls.

V

Other effects: Hanging objects swing. Standing autos rock. Crockery clashes, dishes rattle or glasses clink.

Structural effects: Doors close, open or swing. Windows rattle.

Effect on people: Felt by everyone indoors and by most people outdoors. Many now estimate not only the duration of shaking but also its direction and have no doubt as to its cause. Sleepers awakened.

VI

Other effects: Hanging objects swing. Shutters or pictures move. Pendulum clocks stop, start or change rate. Standing autos rock. Crockery clashes, dishes rattle or glasses clink. Liquids disturbed, some spilled. Small unstable objects displaced or upset.

Structural effects: Weak plaster and Masonry D* crack. Windows break. Doors close, open or swing.

Effect on people: Felt by everyone. Many are frightened and run outdoors. People walk unsteadily.

Other effects: Small church or school bells ring. Pictures thrown off walls, knickknacks and books off shelves. Dishes or glasses broken. Furniture moved or overturned. Trees, bushes shaken visibly, or heard to rustle.

VII

Structural effects: Masonry D* damaged; some cracks in Masonry C*. Weak chimneys break at roof line. Plaster, loose bricks, stones, tiles, cornices, unbraced parapets and architectural ornaments fall. Concrete irrigation ditches damaged.

Effect on people: Difficult to stand. Shaking noticed by auto drivers.

Other effects: Waves on ponds; water turbid with mud. Small slides and caving in along sand or gravel banks. Large bells ring. Furniture broken. Hanging objects quiver.

Structural effects: Masonry D* heavily damaged; Masonry C* damaged, partially collapses in some cases; some damage to Masonry B*, none to Masonry A. Stucco and some masonry walls fall. Chimneys, factory stacks, monuments, towers, elevated tanks twist or fall. Frame houses moved on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off.

VIII

Effect on people: General fright. People thrown to ground.

Other effects: Changes in flow or temperature of springs and wells. Cracks in wet ground and on steep slopes. Steering of autos affected. Branches broken from trees.

Structural effects: Masonry D* destroyed; Masonry C* heavily damaged, sometimes with complete collapse; Masonry B* is seriously damaged. General damage to foundations. Frame structures, if not bolted, shifted off foundations. Frames racked. Reservoirs seriously damaged. Underground pipes broken.

IX

Effect on people: General panic.

Other effects: Conspicuous cracks in ground. In areas of soft ground, sand is ejected through holes and piles up into a small crater, and, in muddy areas, water fountains are formed.

Structural effects: Most masonry and frame structures destroyed along with their foundations. Some well-built wooden structures and bridges destroyed. Serious damage to dams, dikes and embankments. Railroads bent slightly.

X

Effect on people: General panic.

Other effects: Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land.

Structural effects: General destruction of buildings. Underground pipelines completely out of service. Railroads bent greatly.

XI

Effect on people: General panic.

Other effects: Same as for Intensity X.

Structural effects: Damage nearly total, the ultimate catastrophe.

Other effects: Large rock masses displaced. Lines of sight and level distorted. Objects thrown into air.

XII

*Masonry A: Good workmanship and mortar, reinforced, designed to resist lateral forces.

Masonry B: Good workmanship and mortar, reinforced.

Masonry C: Good workmanship and mortar, unreinforced.

Masonry D: Poor workmanship and mortar and weak materials, like adobe.

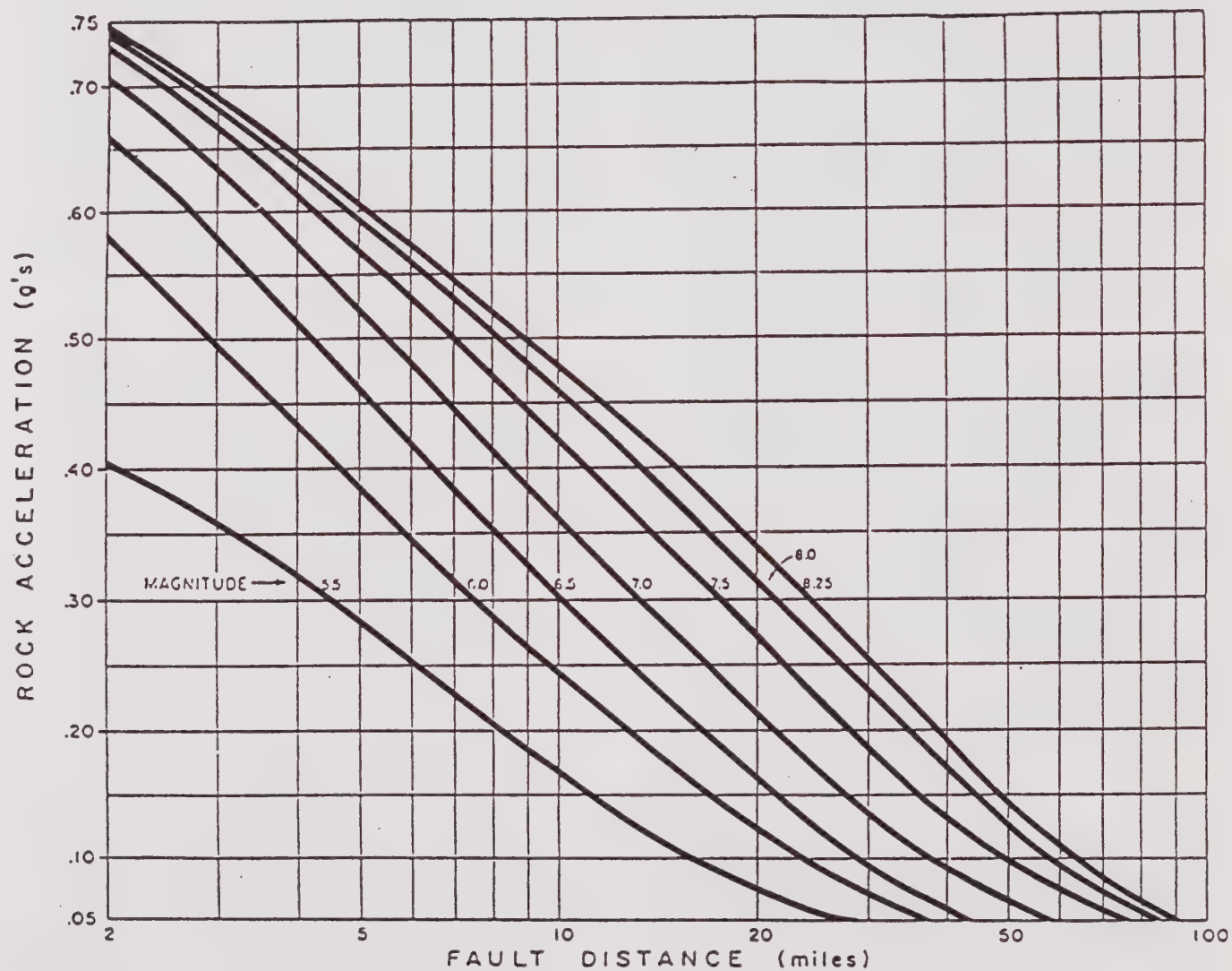
Taller buildings having a longer wave period, which, depending on building height, design, and construction materials, may be similar to the wave period in poorly or unconsolidated earth materials. Thus, shaking of the building may be greater because of the amplification of the shock waves.

Regional ground acceleration values for the City of Redondo Beach were computed for the regional and local faults that have been considered as potential earthquake sources. The ground acceleration values were computed for bedrock materials (Figure 37), however, the study area is considered to consist of "firm ground" or stiff soils that would yield similar regional values as rock with relatively minor modification (Envicom, 1975) (Figure 38). Regional peak ground acceleration values range from a high of 0.68 g for the Palos Verdes fault, 0.63 g for the Redondo Canyon fault, 0.47 g for the Newport-Inglewood fault, to 0.14 for the San Andreas fault (see Table 49 for additional values). The regional values are valuable for general land use planning purposes but do not take the place of site specific geotechnical evaluation that take into account, by testing, the competence of underlying earth materials, ground water depth, and actual distance to the causative fault.

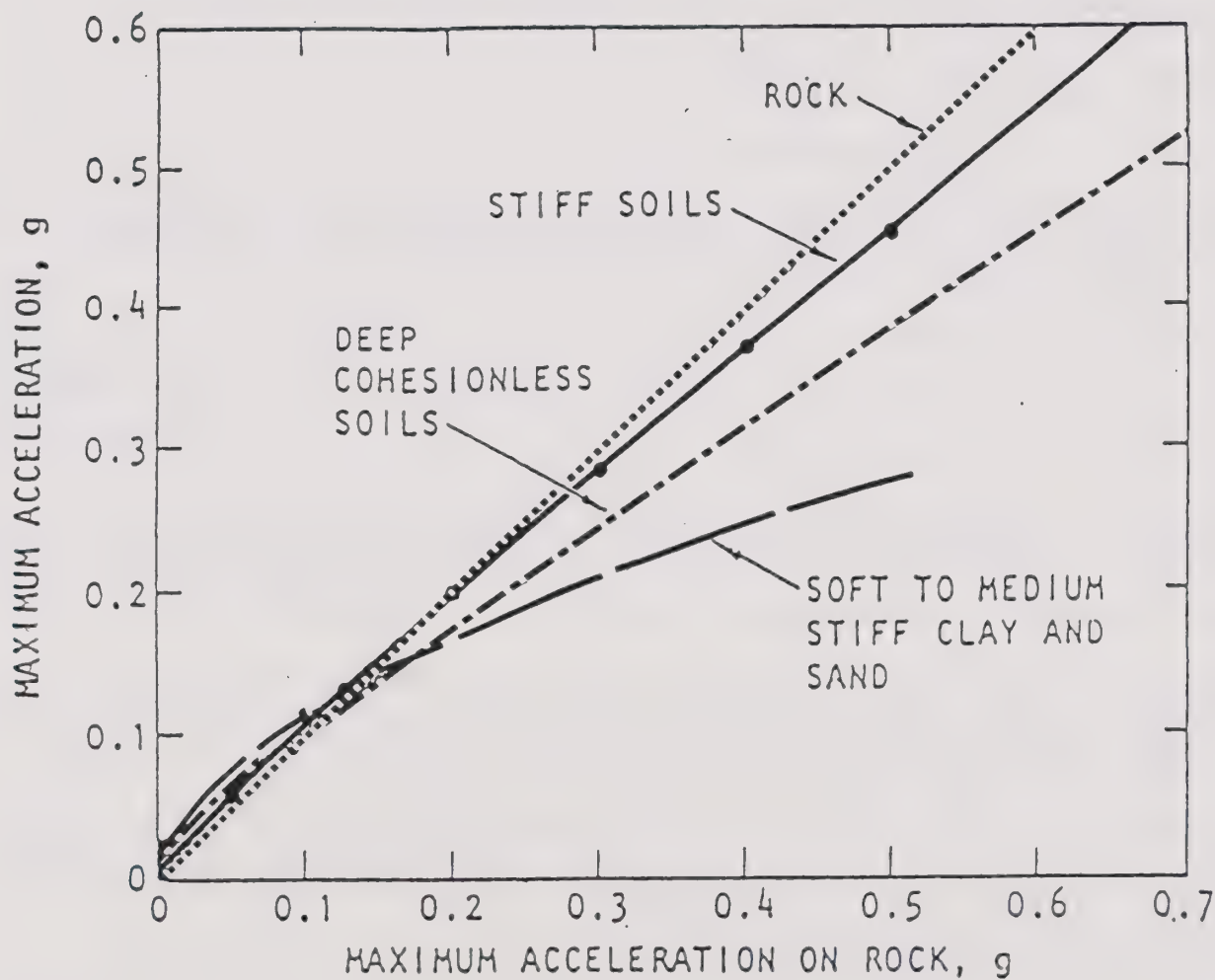
The peak ground acceleration values are for the Newport-Inglewood fault and vary from 0.20 g to 0.42 g. within the City. However, these site specific studies did not take into consideration the Palos Verdes or Redondo Canyon faults as earthquake sources. Recent studies also indicate that peak ground accelerations may contribute less to cumulative damage potential than repeatable ground acceleration cycles of less intense shaking. Overall, the higher the peak ground acceleration the higher the repeatable ground accelerations, whereas, the repeatable ground accelerations are usually 60 to 70 percent of the peak ground accelerations and should therefore be considered in site specific building design (Ploessel and Slosson, 1974). Local building codes usually are equated to either peak or repeatable ground accelerations in order to determine building design.

From a planning perspective, the delineation of earthquake Intensities for the City may be more valuable than ground acceleration. It is well known that peak acceleration shows a poor correlation with damage and risk (Evernden and Thomson, 1985). Intensity is only one of the several commonly used measures of ground shaking from earthquakes that correlates directly with damage to ordinary structures and can be accurately predicted for a postulated magnitude earthquake. For the City of Redondo Beach area, regional Modified Mercalli Scale Intensities have been calculated for earthquake magnitudes of 7.0 on the Newport-Inglewood fault (Topozada et. al., April, 1989), and 6.5 to 6.6 on the Palos Verdes fault (Evernden and Thomson, 1985).

Resultant regional Intensities throughout the City has been postulated to range from VII to VIII. Site specific conditions can modify these Intensities depending on subsurface earth materials, depth to ground water, and building construction. Figure 36 details the effects of an Intensity VII to VIII earthquake.



(SOURCE: Ziony, 1985.)



(SOURCE: Schnabel & Seed, 1972.)

RELATIONSHIPS BETWEEN MAXIMUM ACCELERATIONS ON ROCK AND OTHER LOCAL SITE CONDITIONS

Generally, masonry that is unreinforced or has poor workmanship will sustain the most damage. Unbraced chimneys, parapets, tiles, cornices may fall. Frame houses may be damaged if not bolted onto foundations. Interior items such as bookcases may also fall.

Predicted ground accelerations and Intensities for an earthquake on the San Andreas fault would be less than the figures shown above. For land use planning and risk assessment a worst case situation should be planned for from a future seismic event on the Newport-Inglewood and Palos Verdes faults or possibly the newly discovered Elysian Park fault.

4.1.6 Liquefaction Susceptibility

Liquefaction is a process whereby strong earthquake shaking causes sediment layers that are saturated with ground water to lose strength and behave as a fluid. This subsurface process can lead to near-surface or surface ground failures that can result in property damage and structural failure.

During an Earthquake, seismic waves travel through the earth and vibrate or shake the ground. In cohesionless granular material having low relative density, the vibration can disturb the particle framework leading to increased compaction of the material and concomitant reduction of pore space between the grains. If the sediment is saturated, water occupying the pore spaces resists this compaction and exerts pore pressure which reduces the contact stresses between the sediment grains. With continued shaking, transfer of intergranular stress to pore space water can generate strength and change from a solid state to a liquefied state.

This mechanical transformation can cause various kinds of ground failure at or near the surface. It is important to note that liquefaction of subsurface water saturated materials does not always cause surface ground failures.

If surface ground failure does occur, it is usually expressed as lateral spreading, flow failures, ground oscillation, and/or general loss of bearing strength (Matti and Carson, 1986). Sand boils (injections of fluidized sediment) can commonly accompany these different types of failures.

In order to determine a region's liquefaction susceptibility, three major factors must be analyzed. These include:

- (a) the age and textural characteristics of the alluvial sediments;
- (b) the intensity and duration of ground shaking; and
- (c) the depth to ground water.

Generally, sand and silty sand, that is poorly compacted and of Holocene age is most susceptible to liquefaction. These types of deposits can be found and are dominant within the City of Redondo Beach. Older, finer or coarser grained, indurated materials are less susceptible to potential liquefaction. Potential ground shaking within the city from a moderate to severe earthquake would be adequate to be within a threshold distance to generate liquefaction impacts (**Figure 39**). Ground water depths within 30 feet of the ground surface is the third condition necessary for liquefaction to occur.

For the City of Redondo Beach, a very high zone of liquefaction susceptibility exists within the coastal area where elevations are less than 30 feet above sea level (Envicom, 1975; Tinsley et. al., 1985). Groundwater depths in this area are considered to be within 30 feet of the ground surface. Subsurface migration and percolation of surface runoff may create areas of perched groundwater.

In these areas groundwater would be tapped or perched above more impermeable subsurface deposits. Perched groundwater may occur locally throughout the study area and also produce conditions necessary for liquefaction. These potential areas cannot be determined without site specific or project specific borings drilled down to a depth of 50 feet.

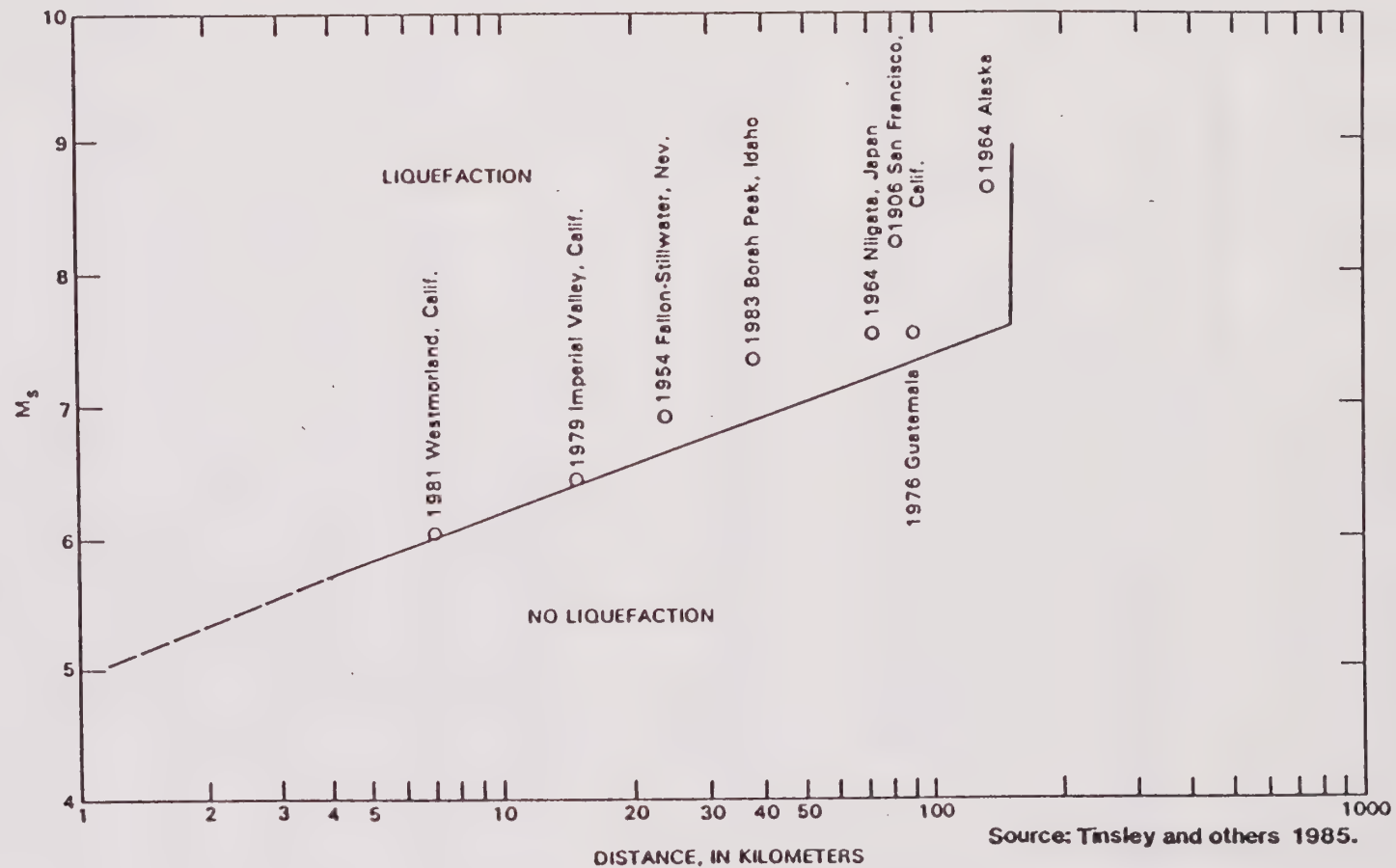
4.1.7 Subsidence

Subsidence (other than that caused by liquefaction) may occur due to earthquake shaking, withdrawal of groundwater and/or withdrawal of hydrocarbons from the underlying soil material.

Subsidence may occur in unconsolidated soils during earthquake shaking as the result of a more efficient rearrangement of existing individual soil particles. Subsidence of sufficient magnitude to cause significant structural damage is normally associated with rapidly deposited alluvial materials, or improperly compacted fill. None of these areas were identified within the City of Redondo Beach (Envicom Corporation, 1975).

Withdrawal of groundwater and/or hydrocarbons from the underlying soil material may cause subsidence on a regional scale that may be disruptive to the leveling of buildings, railroad tracks, sewer lines, etc.

Historically, hydrostatic pressure in the West Coast Groundwater Basin (underlying the City of Redondo Beach) confined aquifers were sufficient to maintain a freshwater outflow to the ocean and prevent seawater intrusion. During the first half of the century, however, an almost total dependence on groundwater to meet water use demands resulted in a serious overdraft of the basin resulting in seawater intrusion.



Relation of earthquake magnitude to the maximum threshold distance at which liquefaction has been observed.

Since 1953, the withdrawal of groundwater from under the City of Redondo Beach has been offset by the West Coast Basin Barrier Project. This project injects water via 106 injections wells which, in turn, prevents salt water intrusion and replenishes the groundwater basin. Continuing operation of the Barrier Project should prevent any future regional subsidence.

Portions of the City of Redondo Beach are underlain by the Torrance Oil Field which had a peak production from approximately eighty-two active on and off-shore wells from a period of 1925 to 1956. Subsidence resulting from hydrocarbon withdrawal was considered to be negligible in the past and is considered to probably be non-existent in the future (Leighton and Associates, 1986).

4.1.8 Slope Stability

Slope failures within the areas of the City underlain by the El Segundo San Hills could occur due to seismic shaking or saturation of the existing sandy earth materials. Generally, if the sand is consolidated and moderately cemented, then the reasonably high frictional strength of the material makes the sand less conducive to slope failure (Leighton and Associates, 1986). Site specific evaluations of future developments would be necessary to determine the specific stability of slopes within the Sand Hills areas.

The surface soils within the San Hills are comprised of the Oceano association and consist of layers of grayish brown to brownish gray sands approximately 60 inches deep. These sands are highly susceptible to wind erosion (USDA, 1969), and have easily erodible surfaces (Leighton and Associates, 1986).

4.1.9 Tsunamis

Tsunamis are seismic sea waves generated by subsea fault displacements, submarine landslides, and/or submarine volcanic activity. Tsunamis begin as long wave trains; when they encounter shallow coastal waters their wavelength shortens and the waves become steeper, breaking and running up onto the adjacent land masses.

Historically, California has suffered little tsunami damage, which makes planning for such an event or occurrence often speculative. However, both distant and locally generated tsunamis can present a long-term hazard to Southern California. The risk is, however, much lower than that from the more common, geologically controlled earthquake hazards (McCulloch, 1985).

Seismically active faults that reach the sea floor may be capable of producing future tsunamis in these areas; similar faults may produce tsunamis offshore from the Los Angeles area. Movement of earthquake-triggered submarine slides of the dimensions of existing slides found in Los Angeles area do not appear to present a serious tsunami hazard.

Predictive modeling for distantly generated tsunamis indicate that wave runups of approximately five feet above sea level every 100 years and nine feet above sea level every 500 years are possible in the Redondo Beach area (U.S. Army, 1974). A preliminary appraisal of wave height for locally generated offshore earthquakes, suggests general wave runup height no greater than six to nine feet in Southern California (McCulloch, 1985) (**Figure 40**).

4.1.10 Hazardous Buildings

The principal threat in an earthquake is not limited to ground shaking, fault rupture, or liquefaction, but the damage that the earthquake may cause to buildings that contain people or essential functions.

Continuing advances in engineering design and building code standards over the past decades have greatly reduced the potential for and occurrence of collapse in an earthquake in most of the newer buildings. Many existing buildings were, however, built in past decades before some of the more recent, progressive earthquake design standards were incorporated into the building codes. Several specific building types existing in the City of Redondo Beach may be of particular concern in this regard.

Unreinforced Masonry Buildings. In the 1800's and early 1900's unreinforced masonry was the most common type of construction material used for larger downtown commercial structures and for multi-story apartment and hotel buildings. These were recognized as a collapse hazard after their performance in earthquakes in San Francisco, 1906; Santa Barbara, 1925; and Long Beach, 1933.

Following the Long Beach earthquake of 1933, seismic requirements were added to local building codes for the first time; the Field Act of 1934 instituted state-wide standards to the vast stock of existing unreinforced masonry buildings. Today, these buildings were still recognized as the most hazardous buildings in an earthquake. Because of the concentrated development within portions of the City of Redondo Beach by the 1930s, a substantial number of unreinforced masonry buildings may still exist.

Senate Bill 547 requires local jurisdictions to enact structural hazard reduction programs by a) inventorying pre-1934 unreinforced masonry buildings, and b) developing mitigation programs to correct structural hazards. Inventories and mitigation plans have been submitted to the State, as required by law.

Pre-cast Concrete Tilt-up Buildings. This building type was introduced following World War II and gained popularity for use in light industrial buildings during the late 1950s and 1960s. Extensive damage to concrete tilt-up buildings in the 1971 San Fernando earthquake revealed the need for better anchoring of walls to the roof, floor, and foundation elements of the building, and for stronger roof diaphragms.

In the typical damage to types buildings, the concrete wall panels would fall outward and the adjacent roof would collapse.

New design standards for tilt-up buildings, developed after the 1971 earthquake, were incorporated into the 1976 Uniform Building Code. However, a large majority of existing tilt-up buildings were designed under the former code standards and may be subject to collapse under strong ground shaking. Light industrial or commercial areas of the City that were developed in the last 1950s and 1960s may contain these types of buildings.

The older tilt-up construction was used primarily for single-story industrial and warehouse buildings with solid wall panels and few or no window openings. However, recent application of tilt-up construction techniques has expanded to two- and three-story commercial, retail and mass housing uses, with poor connection details and a high proportion of glass openings in the wall panels (California Seismic Safety Commission, 1985).

Soft-Story Buildings. The failure of the modern Olive View Hospital in the 1971 San Fernando earthquake as well as the Imperial County Service Buildings in the 1979 Imperial Valley earthquake, led to the repeated recognition of the seismic vulnerability of soft-story construction. Soft-story buildings are those in which at least one story (commonly the ground floor) has significantly less rigidity and/or strength than the rest of the structure. This situation can form a weak link in the structure, unless special design features are incorporated to give the building adequate structural integrity.

Typical examples of soft-story construction are buildings with glass curtain walls on the first floor only, or buildings placed on stilts or columns, leaving the first story open for landscaping, street friendly building entry, parking, or other purposes. In the 1950s to early 1970s, soft-story buildings were a popular construction style for low- and mid-rise concrete frame structures.

Non-Ductile Concrete Frame Buildings. The brittle behavior of non-ductile concrete frame buildings can create major damage or collapse under strong ground shaking. This type of construction, generally lacks masonry shear walls, and was common in the very early days of reinforced concrete buildings, continuing to be built until building codes were updated in 1973. Large numbers of these buildings were built for commercial and industrial use in many urban areas. These structures may be up to four to eight stories in height, yet can also include one-story parking garages with heavy concrete roof systems supported on non-ductile concrete columns.

The history of construction in the City of Redondo Beach spans the dates and uses common for all of the potentially hazardous building types mentioned and detailed above. However, without a detailed inventory, the specific existence or locations of any buildings of these categories within the City limits is not known.

4.1.11 Critical, Sensitive, and High Occupancy Facilities

Some facilities and buildings pose a greater degree of importance or risk to the public, and may warrant special standards or protection from seismic-related impacts or damage for a variety of reasons. Three general categories of facilities pertinent to the City of Redondo Beach are distinguished for future policy considerations and include:

- Critical facilities are those facilities whose continued functioning is necessary to maintain public health and safety following a disaster, and facilities where damage or failure could pose hazards to life and property well beyond their immediate vicinity.
- Sensitive facilities include facilities used for manufacturing, storage, or sale of hazardous materials; socially significant facilities such as schools, nursing homes, and housing for the elderly, handicapped, or mentally ill.
- High occupancy facilities are public or private structures for housing or assembly of large populations (i.e., libraries, auditoriums).

The siting and design of hospitals and public schools falls under the approval authority of the Office of the State Architect, which enforces the state's seismic codes for those facilities. The specification and enforcement of seismic standards for other uses is the responsibility of the City.

4.1.12 Emergency Management Plan

The City of Redondo Beach should formulate specific emergency plans to establish and detail the functional responsibilities and interactions of the federal, state and local governmental agencies, as well as private organizations in the event of natural and/or human related disasters. This plan should also describe potential hazards, possible effects on the City, recommended hazard mitigations, post disaster aid, reconstruction, and financial assistance.

4.1.13 Summary of Composite Hazards

The geologic and seismic hazards that could potentially impact the City of Redondo Beach include ground shaking, liquefaction, slope instability, and tsunamis. Subsidence has probably been mitigated by the replenishment of groundwater into the underlying aquifers.

- All portions of the City of Redondo Beach are subject to potentially strong ground shaking with peak ground accelerations approaching 0.68g and Modified Mercalli Intensities of approximately VII to VII¹/₂. Postulated earthquakes of 6.4 to 6.7 magnitude on the Palos Verdes or Newport-Inglewood faults would be responsible for the above intensities.
- The zones of liquefaction susceptibility are concentrated along the coast within 30 feet elevation of mean sea level, and possibly in unspecified inland areas where perched water is encountered within 30 feet of the ground surface.
- Slope instability could occur on side slope within the Sand Hills if poorly indurated or saturated dune faces are excavated. Surface wind and/or water erosion may also be a potential hazard within the Sand Hills on any denuded slope areas.
- Tsunami runup hazards exist within areas located approximately six to nine feet above mean sea level.

4.1.14 Geologic/Seismic Related Issues

The potential hazards affecting the City of Redondo Beach in this area lead to a series of policy issues that need to be considered within the Safety Element of the Updated General Plan. These issues include, but are not necessarily limited to, the following:

- (a) Sensitive or high-occupancy land uses, such as South Bay Hospital, local elementary and secondary schools, local fire stations, mid-rise (3 to 5 story) buildings, or larger assembly halls or auditoriums are more critical from a human safety standpoint, and may, therefore, warrant a higher level of precaution and protection relative to seismic hazards.
- (b) The edition of the Uniform Building Code used in the City of Redondo Beach should be periodically reviewed and assessed to determine and ensure if it continues to be sufficient for the high levels of ground shaking that may be anticipated in the local area from a high-intensity seismic (earthquake) event.

- (c) Current formats and guidelines required for geotechnical reports and environmental impact reports prepared and submitted to the City for proposed development projects, particularly locations within high liquefaction areas, need to be periodically reviewed and evaluated to assure their continued adequacy and comprehensiveness.
- (d) Existing grading standards, slope retainage standards, and erosion control mitigation measures required and implemented by the City in local development and construction projects need to be evaluated for their continued adequacy relative to seismic safety.
- (e) Information regarding potentially active and “damage capable” faults (Redondo Canyon fault and Palos Verdes fault) located adjacent to the City in the local area should be monitored and reviewed. Based on a change in the activity or status of these faults, the City may wish to consider imposing limitations or precautions on new development in the areas of the City (i.e., water's edge and southwest corner of the City) that are located closest to these faults and fault systems.
- (f) Portions of the City of Redondo Beach which lie within high liquefaction zones or potential tsunami runup zones (i.e., areas located at low elevations and areas with shallow groundwater levels) posing potential hazards to property and human beings, should be specifically identified and appropriate mitigation measures applied to future development and construction within these areas.
- (g) The City of Redondo Beach contains a number of hazardous, unreinforced masonry buildings, pre-cast concrete buildings, soft-story structures, and non-ductile concrete frame buildings. These types of existing structures must be identified, analyzed, and modified by the individual owners within certain time periods, in order to conform with Ordinance 2576 and Senate Bill 547, requiring the structural upgrading of such structures to improve their safety and reduce potential hazards and injuries relative to seismic safety.
- (h) Existing local, state and federal disaster preparedness resources and emergency mobilization/evacuation plans need to be reviewed and coordinated to assure their continued adequacy and effectiveness in the event of a major seismic event.

4.1.15 Goals, Objectives, and Policies

The goals, objectives, and policies proposed within relative to geologic/seismic hazards in the City of Redondo Beach are intended to reduce death, injuries, damage to property, and economic and social dislocation due to earthquakes and related geologic hazards.

The goals, objectives, and policies are also intended to enhance the preparedness of City agencies, departments, and the community in general to survive, respond to, and effectively and safely recover from a major seismic (earthquake) event.

Issue **GEOLOGIC AND SEISMIC SAFETY AWARENESS/CONFORMANCE**

Goal *It shall be the goal of the City of Redondo Beach to:*

9A Ensure that the City of Redondo Beach and all private developers and builders undertaking projects in the City meet and conform to all applicable state, regional, and local requirements, ordinances, and policies relative to seismic safety.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.1 Substantially reduce the level of death, injury, property damage, economic and social dislocation and disruption of vital services that would result from earthquake damage and related seismic events; and to ensure the widespread availability and effective response of emergency, evacuation, and disaster relief services throughout the community following an earthquake (seismic) event.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.1.1 Continually maintain, monitor, and update all relevant geologic and seismic related ordinances, regulations, and codes, including the seismic safety component of the Safety Element of the General Plan to maximize awareness, efficient planning, and effective response to these continually evolving issues.

Issue **ADMINISTRATIVE, REPORTING, AND CODE AWARENESS/ENFORCEMENT**

Goal *It shall be the goal of the City of Redondo Beach to:*

9B Ensure the continued adequacy, comprehensiveness, and availability of the various ordinances, requirements, codes or other administrative documents enacted by or used by the City of Redondo Beach relative to seismic safety.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.2 Maintain, adopt, enforce, and make available all appropriate state/local ordinances, requirements, codes, and administrative documents, in

order to further enhance, advance, and ensure the geologic and seismic safety of the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.2.1 Periodically review and assess the edition of the Uniform Building Code used in the City, in order to determine and ensure that its requirements and standards will continue to be sufficient for the high levels of ground shaking that may be anticipated to occur in the local area from a high-intensity seismic (earthquake) event.

9.2.2 Periodically review and evaluate current formats and guidelines required for geotechnical reports and environmental impact reports prepared and submitted to the City for proposed development projects, particularly locations within high liquefaction areas, to assure their continued adequacy and comprehensiveness.

9.2.3 Monitor and evaluate existing grading standards, slope retainage standards, and erosion control mitigation measures required and implemented by the City in local development and construction projects to ensure their continued adequacy and success relative to seismic safety.

Issue **FAULT RUPTURE**

Goal *It shall be the goal of the City of Redondo Beach to:*

9C Protect life, safety; substantially reduce earthquake-related damage resulting from nearby local and regional fault rupture, and help ensure safe and orderly evacuation of building occupants following an earthquake event.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.3 Take all appropriate measures and actions to maintain and update the City's information and data base relative to the potential for local and regional fault rupture and avail the community to this information on an ongoing basis.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.3.1 Promote the continued collection of relevant data on fault locations and history of fault displacement and activity, as a basis for future refinement of seismic-related policies. Should a previously undetermined or unexposed fault be identified within the City limits,

it should be evaluated immediately, and a determination made of the siting and construction limitations that should be imposed on new development and construction in these areas.

9.3.2 Monitor and relate land use regulations regarding active or potentially active local and regional faults in the planning for new critical or high-occupancy facilities to ensure for their continued operation and/or relative ease of evacuation of occupants if the building(s) are damaged by fault rupture.

9.3.3 Should a previously unidentified or unexposed fault be identified within the City of Redondo Beach municipal boundaries, the city shall formally notify (by United States mail or other appropriate means) all property owners within a 500 linear foot radius of any and all boundaries of such fault of the discovery and existence of the fault.

Issue **STRONG GROUND MOTION**

Goal *It shall be the goal of the City of Redondo Beach to:*

9D Protect health/life safety and property in the City from the adverse effects of strong ground motion through the implementation of effective standards for seismic design of structures in the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.4 Ensure that the design standards implemented to protect local structures against ground shaking be consistent with those considered state-of-the-art at the time of implementation, and seek to reduce the level of potential property damage from strong ground motion, thereby facilitating rapid physical and economic recovery following an earthquake event.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.4.1 Maintain the existing high standards of performance currently enforced in the City for existing buildings and construction techniques of new buildings relative to potential strong ground motion and shaking that may be caused in the local area by an earthquake event.

Issue **LIQUEFACTION**

Goal *It shall be the goal of the City of Redondo Beach to:*

9E Protect life and essential transportation and evacuation routes, reduce the potential for property damage from liquefaction, and promote the collection of more complete information on liquefaction susceptibility throughout the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.5 Take all necessary and appropriate actions to seek out and maintain additional information and protect the residents, employees, visitors, and structures of the community against potential damage related to liquefaction.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.5.1 Require that developers determine the specific liquefaction potential at a project or construction site within areas of the City identified as being prone to liquefaction prior to development, and require that specific measures be taken by the developer or builder, as necessary, to prevent or reduce liquefaction-related damage in an earthquake event.

9.5.2 Promote the collection of relevant data on local groundwater levels and areas susceptible to liquefaction, as a basis for future refinement of liquefaction policies or procedures in the City.

9.5.3 Include potential damage to transportation and evacuation routes in liquefaction prone areas or site-related mitigation programs, both in project-specific and City-wide instances.

Issue **CRITICAL, SENSITIVE, AND HIGH-OCCUPANCY FACILITIES**

Goal *It shall be the goal of the City of Redondo Beach to:*

9F Ensure the continued functioning of essential facilities following a geologic or seismic-related disaster; prevent loss of life from the failure of critical and sensitive facilities in and following an earthquake event; and be prepared for post-disaster response, such as difficult or hazardous evacuations or rescue, treating large numbers of injured persons, and cleanup or decontamination of hazardous materials.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 9.6 Take all necessary and appropriate actions in the siting, maintenance, and operation of critical and sensitive facilities in the community, to ensure, as much as possible, that these facilities continue to operate safely and successfully both during and after an earthquake event.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 9.6.1 Require that earthquake survival and efficient post-disaster functioning be a primary concern in the siting, design and construction standards for essential critical facilities in the City.
- 9.6.2 Require that proposed Critical, Sensitive, and High-Occupancy facilities be subject to careful and rigorous standards of seismic review prior to any local approvals or permits, including detailed site investigations for faulting, liquefaction and ground motion characteristics, and application of the most current professional standards for seismic design.
- 9.6.3 Prohibit the location of any Sensitive and High-Occupancy facilities within one hundred (100) feet of an active or potentially active local fault or fault system.
- 9.6.4 Attempt, wherever possible, to locate Critical and Sensitive structures in areas of the City with continuous road access, and areas where utility services can be easily maintained and/or quickly reinstated in the event of an earthquake.
- 9.6.5 Require that existing Critical and Sensitive Facilities with significant seismic vulnerabilities be upgraded, relocated or phased out as appropriate or possible.
- 9.6.6 Incorporate planning for potential geologic or seismic-related incidents affecting Critical, Sensitive and High-Occupancy Facilities into the City's contingency plans for disaster response, evacuation, and recovery.
- 9.6.7 Require all Critical, Sensitive, and High-Occupancy Facilities located in areas of potential seismic-related hazards (particularly liquefaction or tsunami) to maintain site-specific emergency response plans, with contingencies for all appropriate geologic and seismic-related hazards.

Issue **TSUNAMI RUNUP**

Goal *It shall be the goal of the City of Redondo Beach to:*

9G Protect life, prevent human injury, and reduce the potential for property damage from tsunami runup, and promote the collection of more complete information on tsunami runup susceptibility throughout the waterfront and low-lying areas of the City.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.7 Obtain, update, and make available all existing information regrading tsunami susceptibility, adopt all necessary policies to prevent the potential for tsunami damage in the community, and require the conduct of all reasonable analysis and installation of all reasonable construction mitigation measures, in order to ensure the greatest possible protection of the community and its residents from damage from such hazards.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.7.1 Determine the specific tsunami runup potential at an existing structure or proposed project/construction site within areas of the City identified as susceptible to such prior to development, and require that specific measures be taken by the developer or builder, as necessary, to prevent or reduce tsunami runup-related damage.

9.7.2 Require that specific structures determined to be susceptible to tsunami runup or the City as a whole explore participation in and receipt of information from the Seismic Sea-Wave Warning System and the Alaska Tsunami Warning Center.

9.7.3 Require that specific structures determined to be particularly susceptible to tsunami runup develop site-specific evacuation and emergency response programs related to such an event.

Issue **HAZARDOUS BUILDINGS**

Goal *It shall be the goal of the City of Redondo Beach to:*

9H Prevent the loss of life, serious injuries, and major social and economic disruption caused by the collapse of or severe damage to vulnerable or structurally unsafe buildings in an earthquake.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 9.8 Adopt and enforce all available and appropriate construction, engineering, and safety regulations/requirements relative to seismic safety of local buildings and construction methods and materials to upgrade local structures to non-hazardous levels and ensure that new or rehabilitated structures are constructed in accordance ~~will~~ with all applicable laws, codes, and industry standards.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 9.8.1 Continue to monitor and enforce the orderly and effective upgrading of seismically hazardous buildings in the City in accordance with Ordinance 2576 and Senate Bill 547.
- 9.8.2 Develop procedures to periodically review the seismic condition of other potentially hazardous buildings at appropriate points in the buildings' histories.

Issue **EMERGENCY PREPAREDNESS**

Goal *It shall be the goal of the City of Redondo Beach to:*

- 9.I Provide means and methods for effective response in a seismic-related disaster or emergency situation, including life-saving and the curtailment of property damage.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 9.9 Ensure the availability, maintenance, and successful implementation of a modern and comprehensive seismic-related emergency preparedness and disaster response program in the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 9.9.1 Develop and adopt a comprehensive City of Redondo Beach emergency preparedness and response plan.
- 9.9.2 Ensure that the City's emergency preparedness plan (once adopted) and efforts are properly coordinated with other federal, state, and local response agencies.
- 9.9.3 Periodically review and upgrade (as necessary) the City's disaster response plan (once adopted).

Issue **POST-DISASTER RECOVERY AND RECONSTRUCTION**

Goal *It shall be the goal of the City of Redondo Beach to:*

9J Plan for and facilitate the rapid and effective recovery of the City following a seismic-related (earthquake) event.

Objective *It shall be the objective of the City of Redondo Beach to:*

9.10 To provide for and increase the potential for a rapid and effective recovery of the City's residents, employees, visitors, and reconstruction of its structures following a seismic-related (earthquake) event.

Policies *It shall be the policy of the City of Redondo Beach to:*

9.10.1 Develop programs, options, and procedures which will promote the rapid construction and/or rehabilitation of the City following an earthquake event, and facilitate planning efforts to upgrade the community's physical environment and character, as opportunities allow.

4.1.16 Implementation Program

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Geology and Seismic Safety Section. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

- City of Redondo Beach Department of Public Works Department officials shall, on an ongoing basis, monitor available reports and materials available through regional seismologists, universities, and institutes to receive updates on regional and local seismic conditions, particularly as they relate to discoveries and modifications to fault traces, fault zones, and fault activity (*Policy 9.1.1, 9.3.1, 9.3.2*).
- Technical reviews and updates of the seismic safety portion of the Safety Element of the General Plan, local groundwater/liquefaction susceptibility data, ground shaking/motion potential and fault data shall be carried out, at least every three years. Updates and potential revisions in liquefaction susceptibility areas, fault zone designations, and related land use and construction policies shall be made, as necessary to reflect changing

conditions, technological advances, and policies (*Policy 9.1.1, 9.3.1, 9.3.2, 9.4.1, 9.5.2*).

- City of Redondo Beach Building Department officials shall periodically conduct and complete a technical review of the Uniform Building Code used in the community, to ensure that requirements and standards continue to be sufficient and appropriate (particularly as they relate to ground-shaking that may be anticipated in the local area from a high-intensity seismic event (*Policy 9.2.1, 9.4.1*)).
- All geologic and soils reports submitted to the City of Redondo Beach Community Development Department in the enforcement of the Safety Element of the General Plan and review/approval of development and construction proposals shall be reviewed for format (legal), technical adequacy, and completeness by an experienced geologist or soils engineer employed or retained by the City of Redondo Beach. Format requirements and other guidelines for such reports shall be updated and revised as necessary, to assure continued adequacy and comprehensiveness (*Policy 9.2.2*).
- Grading, slope, and erosion control standards within building and safety codes used in the City of Redondo Beach shall be monitored, evaluated, and amended, as necessary, to ensure their continued adequacy and effectiveness (*Policy 9.2.3, 9.4.1*).
- The most advanced and up-to-date professional standards for seismic planning and design shall be used in the siting and design of Critical, Sensitive and High-Occupancy Facilities in the community, to ensure continued safe operation and effective protection & evacuation of occupants (*Policy 9.3.2, 9.4.1*).
- If a previously unidentified or unexposed fault is identified within the community, the City of Redondo Beach Community Development (Building) Department shall provide formal direct mail notification of the discovery, and all available information regarding its location, potential activity, and condition to all property owners within a 500 linear foot radius of the previously unidentified or unexposed fault trace (*Policy 9.3.3*).
- Specific guidelines shall be developed by the City of Redondo Beach Community Development (Building) Department for the collection of data and conduct of studies for determination of liquefaction potential at specific sites in areas identified by the City to be liquefaction-prone. Potential impacts from such sites to adjacent transportation and evacuation routes must be included within these studies. The guidelines should specify: minimum depth of boreholes, minimum lapse time for observation of water level, sample types and frequencies, and the appropriate soils test for evaluation of

suspect soil types. Based on the result of these studies, mitigation measures must be taken prior to construction to reduce the potential for liquefaction-related damage (*Policy 9.5.1, 9.5.2, 9.5.3*).

- The City of Redondo Beach shall require the completion and submittal of detailed and rigorous site-specific technical studies analyzing ground shaking characteristics, liquefaction potential and fault rupture potential prior to and as a part of the siting, development, and construction planning and approval process for local Critical, Sensitive, and High-Occupancy Facilities (*Policy 9.6.1, 9.6.2, 9.6.3, 9.6.4*).
- Local zoning and building regulations shall be amended, as necessary, to prevent the siting of new Critical, Sensitive, and High-Occupancy Facilities within one hundred (100) feet of an active or potentially-active local fault or fault system (*Policy 9.6.1, 9.6.2, 9.6.3*).
- City of Redondo Beach Community Development Department officials shall, within one year of adoption of the updated General Plan, review existing local Critical, Sensitive, and High-Occupancy structures to determine their status and vulnerability relative to seismic safety. The City of Redondo Beach Community Development Department officials shall notify and attempt to work with the owners and/or occupants of any local structures determined to be unsafe or particularly vulnerable to seismic impacts to implement measures to upgrade, relocate, or phase out these facilities, as feasible and appropriate (*Policy 9.6.5*).
- Environmental review conducted in accordance with any proposed development projects located west of Catalina Avenue in South Redondo Beach shall include the specific identification and analysis of the tsunami run-up potential of the site (*Policy 9.7.1*).
- Sites or structures determined to be particularly susceptible to tsunami run-up as a result of these analyses shall be required to implement mitigation measures (including site-specific evacuation and emergency response programs responding to such an event, and should also be made aware of and have access to information provided by the Seismic Sea-Wave Warning System and the Alaska Tsunami Warning Center, to further reduce the potential for damage from such an event (*Policy 9.7.2, 9.7.3*).
- The City of Redondo Beach Community Development (Building) Department shall aggressively monitor and enforce the upgrading of local seismically-hazardous structures, in accordance with City of Redondo Beach Ordinance #2576 and Senate Bill #547 (*Policy 9.8.1*).

- The City of Redondo Beach Community Development (Building) Department shall develop a formal system and method (including timing) for reviewing and reporting on the seismic condition of other potentially hazardous local structures (*Policy 9.8.2*).
- The City of Redondo Beach Community Development (Building) Department (in association with the Planning Division, the Department of Public Works, the Fire Department, and other appropriate local agencies and departments) shall revise, adopt, enforce, update, and maintain a comprehensive emergency preparedness and disaster response program for the City of Redondo Beach. The program shall include policies related to the planning, physical reconstruction, and rehabilitation of the area following a disaster event. The program shall be reviewed and coordinated with other appropriate and responsible federal, state, and regional agencies to assure the greatest possible level of comprehensiveness and effectiveness (*Policy 9.6.6, 9.9.1, 9.9.2, 9.9.3, 9.10.1*).
- The City of Redondo Beach shall ensure that specific procedures for post-event traffic control, emergency evacuations, and security of damaged areas are included within the adopted local emergency preparedness and disaster response program (*Policy 9.10.1*).
- All Critical, Sensitive, and High-Occupancy local facilities deemed by the City of Redondo Beach to be in areas subjected to significant seismic-related hazards must complete, maintain, and submit to the City of Redondo Beach Community Development (Building) Department site-specific emergency response plans, with contingencies for all site-specific geologic and seismic-related hazards (*Policy 9.6.7*).
- The City of Redondo Beach shall maintain effective and up-to-date mutual aid agreements for fire, police, medical response, public works, building inspection, mass care, and heavy rescue, as they relate to post-disaster response and recovery (*Policy 9.10.1*).

SECTION 4.2

Noise (Ambient and Stationary Sources)

4.2 NOISE (OVERALL [AMBIENT] AND STATIONARY [INTRUSIVE] SOURCES)

4.2.1 Statutory Requirements

The generation of noise, its impacts on land uses and the functional quality of life of residents, business people, and visitors to the area, and its buffering and/or mitigation is required to be documented and analyzed as a separate element within a city's or county's General Plan.

The State of California, under California Government Code Section 65302(f), requires that a noise element be included within all city and county General Plans, as follows:

"A noise element which shall identify and appraise noise problems in the community. The noise element shall recognize the guidelines established by the Office of Noise Control in the State Department of Health Services and shall analyze and quantify, to the extent practicable, as determined by the legislative body, current and projected noise levels for all of the following sources:

- (1) Highways and freeways.*
- (2) Primary arterials and major local streets.*
- (3) Passenger and freight on-line railroad operations and ground rapid transit systems.*
- (4) Commercial, general aviation, heliport, helistop, and military airport operations, aircraft overflights, jet engine test stands, and all other ground facilities and maintenance functions related to airport operation.*
- (5) Local industrial plants, including, but not limited to, railroad classification yards.*
- (6) Other ground stationary noise sources identified by local agencies as contributing to the community noise environment."*

Recommendations within the State of California General Plan Guidelines (Chapter III) issued by the State of California Office of Planning and Research (OPR) also suggest that Noise Elements shall:

"Accurately reflect the noise environment, the stationary sources of noise, and the impacts of noise on local residents. Based upon the "shoe fits" doctrine, the noise element will be as detailed as necessary to describe the local situation and mitigate local noise problems."

Issues to be analyzed in the Noise Element should include:

- "Identification and appraisal of major noise sources;
- Existing and projected levels of noise and noise contours for major noise sources;
- Determination of the extent of "noise problems in the community; and
- Selection and imposition of methods of noise attenuation and the protection of residences from excess noise."

These guidelines set forth the basic standards and expected contents of a city's Noise Element. The most recent and presently "in-force" City of Redondo Beach Noise Element was adopted in 1975. Although the document has been judged to be adequate and comprehensive for its time, it must, like a number of the older components of the existing General Plan, be updated to reflect changing physical, environmental, legislative, and legal conditions and requirements.

4.2.2 Background/Context

The overall noise environment is a combination of sound from a number of individual sources which generate differing aural intensities and intervals. The actual effects of the surrounding sound levels on land uses and people depends on the spatial and temporal distribution of these noise sources at the time of occurrence.

Among the negative effects of noise on people are annoyance, inconvenience, activity interference, short-term physical pain, and serious long-term hearing damage or loss. The degree to which there is annoyance/inconvenience or activity interference depends on the magnitude of the intruding noise level, the frequency with which it occurs, and the time of day which the noise occurs.

Noise levels and impacts occurring within the City of Redondo Beach are typical of those expected in an urbanized area, but have the potential of being exacerbated by several specific noise generating sources in or near the community. The overall noise levels experienced within the City of Redondo Beach are generated by the combination of a number of mobile or stationary sources, including:

- Noise generated by traffic or traffic-related sources (including passenger vehicles, construction vehicles, or emergency vehicles [cars, buses, and trucks]);

- Noise generated by airplane traffic flying overhead to and from various smaller regional airports and airfields (i.e., Hawthorne Airport, Torrance Airport);
- Noise generated by daily construction and commercial operations (i.e., deliveries, waste removal, petroleum extraction activities, machinery operation, car washes, entertainment activities, etc.) and day-to-day human activities; and
- Noise generated by stationary utility uses (i.e., Southern California Edison Power Plant, Southern California Edison elevated high-tension electricity transmission lines, Atcheson, Topeka, and Santa Fe Railroad traffic).

The intensity and impacts of these noise generating sources have all been considered and quantified within the following analysis. Of all of the sources contributing to the overall (ambient) noise level, the two most significant noise generating sources in the city, and, therefore, the most intensely analyzed and influential in this document and the resultant General Plan document, are:

- (1) vehicular or traffic-related noise (increased along major thoroughfares); and
- (2) noise generated by the activity of the Southern California Edison Power Plant located in South Redondo Beach.

4.2.3 Scope and Format of the Noise Section of the Document

The unique nature and profile of the noise issue within the City of Redondo Beach has caused the scope and degree of detail of the noise data compilation and analysis to go well beyond that which is normally required and contained in a General Plan. This response was primarily caused by a recognition of the number, intensity, and complexity of the various stationary noise sources in the community, and their potential impact on the overall (ambient) noise conditions and quality of life in the community.

In response to these conditions, a much greater focus and level of detail has been placed on the stationary noise source issue. In order to guarantee the most accurate, objective, and sophisticated analysis possible, an extremely thorough technical analysis and report on the primary stationary noise sources (including an analysis of the levels and potential impacts of low-frequency noise from the Southern California Edison Company Power Plant) was conducted by the acoustical research and analysis firm of Walker, Celano & Associates.

In order to provide a more complete and effective understanding of the noise topic for the reader, the existing conditions data and analysis portions of the document have been split into two components:

- (1) the data and analysis which focuses on the overall components of the noise topic (which also include the general [cumulative] levels and impacts of all of the stationary noise sources in the community), conducted primarily by the prime project consultant (Envicom Corporation); and
- (2) the data and analysis which specifically focuses on the stationary component of the noise topic, conducted primarily by the acoustical sub-consultant (Walker, Celano & Associates).

The goals, objectives, policies, and implementation programs for both the overall and stationary components of the noise topic have been formatted similarly to the other sections of the document, and are contained (together) at the end of the entire section.

4.2.4 Noise Measurement Methodology

A number of government agencies charged with establishing noise standards and criteria have determined that the day-night average sound level (depicted as Ldn) is the preferred and most logical unit of noise measurement exposure for use in evaluating the potential impact of an intruding noise source (**Table 50**). The day-night average sound level (Ldn) represents an average of the A-weighted noise levels occurring during a complete twenty-four hour period; however, the measurement includes a weighting or penalty (an increase of 10 decibels) applied to noise occurring during the more sensitive nighttime hours (10:00 p.m. to 7:00 a.m.).

The A-weighted noise level is a measurement of the noise level at any one point in time, while the day-night sound level is a quantitative measure of the noise exposure over a full day. The term "A-weighted" refers to a filtering of the noise signal to emphasize frequencies in the middle of the audible spectrum and to de-emphasize low and high frequencies in a manner corresponding to the way in which the human ear perceives sound. The "A-weighted" noise level has been found to correlate well with people's actual judgments of the "noisiness" of different sounds and has been successfully used for many years as a measure of community noise levels and the basis for analyses.

The gross measurements conducted for the existing conditions analysis of this study are expressed in A-weighted peak hour noise levels. The actual peak hour measurements taken in the field have been mathematically adjusted, according to accepted industry standards (reductions of approximately 5 decibels below the peak

TABLE 50

Standard Noise Level Measurement Definitions

Ldn- Day-Night Sound Level:

Ldn, or Day-Night Sound Level, is a measure (in decibels) of the A-weighted noise exposure averaged for a given period at one particular site or in the community as a whole. The measure results from the interpolated average of measurements over a given time period, with an increased weighting factor applied to the nighttime time period. For the purposes of Ldn calculations, day is defined at 7:00 a.m. to 10:00 p.m. with no weighting factor applied. Nighttime is defined as 10:00 p.m. to 7:00 a.m. with occurrences during this time period weighted with a 10 decibel penalty over those occurring in the daytime.

CNEL- Community Noise Equivalent Level:

CNEL, or Community Noise Equivalent Level, is also a measure (in decibels) of the A-weighted noise exposure averaged for a twenty-four hour period at one particular site or in the community as a whole. This measurement technique is used only by the State of California, in relating community noise exposure and land use compatibility. The only difference between CNEL and Ldn is the intermediate or slight "extra" weighting penalty that CNEL applies to earlier evening noise. CNEL applies a 5 decibel weighting penalty to noise between the hours of 7:00 p.m. and 10:00 p.m. and a 10 decibel weighting penalty to noise between the hours of 10:00 p.m. and 7:00 a.m.. (Ldn applies a 10 decibel penalty to noise between the hours of 10:00 p.m. and 7:00 a.m., but applies no weighting penalty to noise between the hours of 7:00 p.m. and 10:00 p.m.)

Excepting for very extreme aberrations in sound levels during the 7:00 p.m. to 10:00 p.m. (i.e., a very loud outdoor concert or sporting event) CNEL and Ldn measurements should be almost exactly the same (within 1 or 2 decibels of each other).

Leq- Hourly Equivalent Sound Level:

Leq, or Hourly Equivalent Sound Level, is a measure (in decibels) of the A-weighted noise exposure averaged for any defined period of time at one particular site or in the community as a whole with no weighting or penalties applied for time of day. The measure results from the average of cumulative noise measurements taken during any one time period. This measure is presently used primarily by the federal government in their noise analysis and guidelines (i.e., Federal Highway Administration). In this manner very loud and very quiet sound levels taken over the given time period are averaged out to provide a more consistent measure of the noise environment during the given period.

A-Weighting:

A-Weighting is a sound frequency filtering process, used with sound meters that measure noise levels, where the extremely high and extremely low frequency components of the sound are deemphasized or "filtered" in a manner similar to the natural filtering process of the human ear. This filtering process allows noise levels to be quantified, analyzed, and more effectively correlated to the "realistic" response and sensitivity of actual human hearing.

reading), to account for averaging over a 24 hour period. These mathematically adjusted measurements generate the average day night noise level exposure levels (Ldn) used in the majority of the descriptions/analyses contained in the document.

4.2.5 Government Guidelines/Requirements

Noise guidelines and requirements have been established at the federal (Federal Highway Administration), state (State of California, through the State Building Code and State Department of Health and Safety Office of Noise Control), and local (City of Redondo Beach Municipal Code) levels to specify levels of sound and specific requirements relating to the protection of public health and welfare relative to noise.

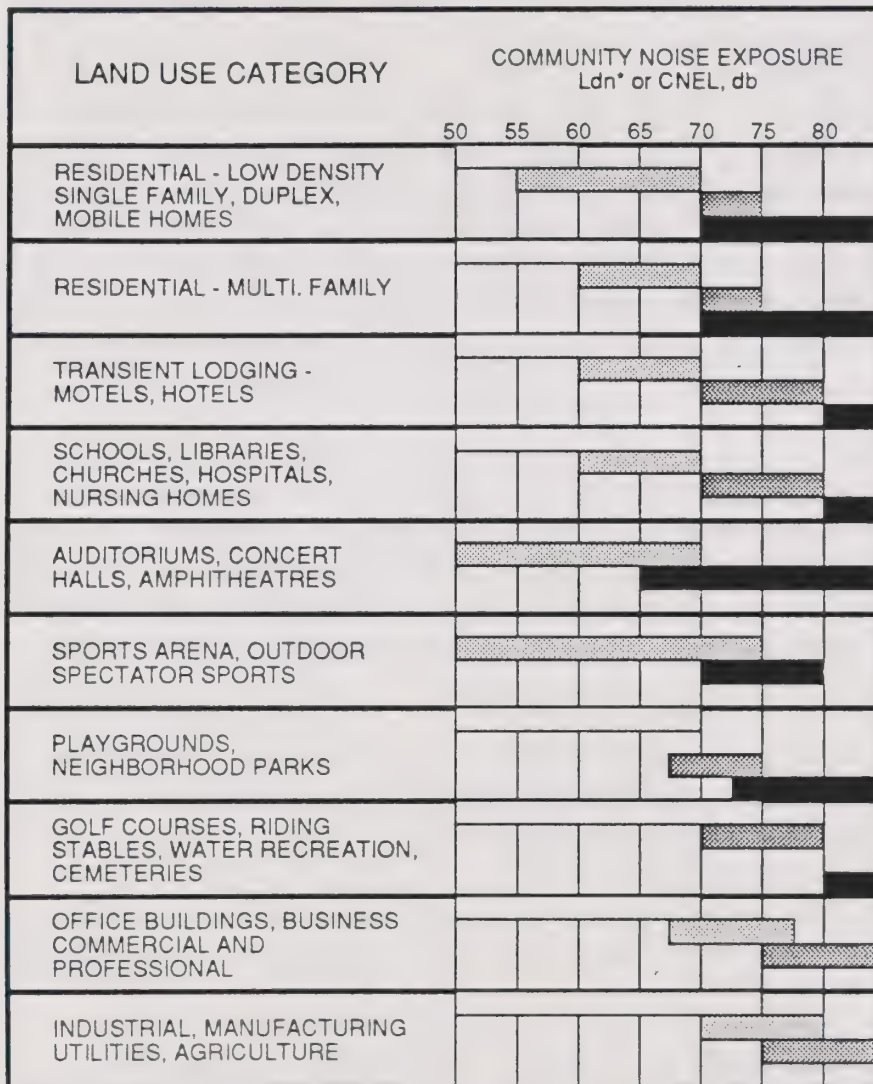
Federal

The Federal Highway Administration (FHWA) had adopted and published noise level and impact abatement criteria for highway construction projects. These criteria establish an exterior noise level goal for residential land uses of 67 Leq (for the peak hour). The interior noise level goal for residential land uses is 52 Leq. The exterior criteria apply to private yards. The interior criteria assume that a typical wood-frame structure reduces exterior noise levels by ten decibels (with windows open) and by twenty decibels (with windows closed).

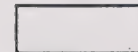
State of California

The State of California, through the State Building Code, has adopted certain noise standards specifying that building noise insulation shall be designed and installed as such to limit the interior noise levels of apartment houses, and dwellings other than detached single-family dwellings to a level of 45 decibels, Ldn or CNEL, in any habitable room, with windows closed. The State of California Department of Health and Safety (Office of Noise Control) has published a recommended, but not mandatory, set of guidelines, Land Use Compatibility for Community Noise Environments, for the exposure of various land uses and protection of public health in communities from different levels of noise (**Figure 41**).

As shown in the figure, the highest recommended “normally acceptable” exterior noise level exposure for single family residential uses is 60 decibels (CNEL or Ldn); the highest recommended “normally acceptable” exterior noise level exposure for multi-family residential uses is 65 decibels (CNEL or Ldn); the highest recommended “normally acceptable” exterior noise level exposure for commercial uses, institutional uses, and public/governmental uses is 70 decibels (CNEL or Ldn); and the highest recommended “normally acceptable” exterior noise level exposure for industrial uses is 75 decibels (CNEL or Ldn).



INTERPRETATION



NORMALLY ACCEPTABLE

Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.



CONDITIONALLY ACCEPTABLE

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



NORMALLY UNACCEPTABLE

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken.

Source: Office of Noise Control, California Department of Health

* Definition - Ldn Day - Night Average Sound Level

The Day - Night Sound Level is a measure of the cumulative noise exposure in the community. It results from the summation of hourly Leq's over a 24 - hour time period with an increased weighting factor applied to the nighttime time period. For Ldn calculations, day is defined at 7am to 10pm with a weighting factor of unity. Night is defined as 10pm to 7am with occurrences during this time period deemed 10 times as significant as those occurring in the daytime.

Achievement of these exterior exposure levels would likely cause interior noise exposure levels in these areas to remain within the ranges recommended by the various federal and state agencies, assuming the normal reduction in exposure levels (approximately 10 to 20 decibels) from outside to inside (depending on the open or closed status of the structures windows).

Where the “normally acceptable” range is used, it is defined as the highest noise level that should be considered for the construction of the buildings which do not incorporate any special acoustical treatment or noise mitigation. The “conditionally acceptable” or “normally unacceptable” ranges include conditions calling for detailed acoustical study or construction mitigation to reduce interior exposure levels prior to the construction or operation of the building under the listed exposure levels.

City of Redondo Beach

The City of Redondo Beach Municipal Code, under Chapter 24 Noise Regulation (effective August 11, 1976), provides the local government ordinance relative to community noise level exposure, guidelines, and regulations. The ordinance provides local noise limits through setting out a series of maximum permissible exterior and interior (for sensitive receptors only) sound levels by land use categories.

These limits differ between daytime hours (7:00 a.m. to 10:00 p.m.) and nighttime hours (10:00 p.m. and 7:00 a.m.), with the nighttime being more restrictive. The limits (expressed in A-weighted decibels) include:

Exterior Noise Levels

Single and Low-Density Residential	(Daytime) 50 decibels (Nighttime) 45 decibels
Medium Density Residential	(Daytime) 55 decibels (Nighttime) 50 decibels
High Density Residential	(Daytime) 60 decibels (Nighttime) 55 decibels
Commercial/Retail	(Daytime) 65 decibels (Nighttime) 60 decibels
Industrial (Planned Development)	(Daytime) 65 decibels (Nighttime) 60 decibels
Industrial (Planned)	(Daytime) 70 decibels (Nighttime) 70 decibels

Interior Noise Levels

Residential	(Daytime) 45 decibels (Nighttime) 40 decibels
School	(Daytime) 45 decibels
Hospitals	(Anytime) 40 decibels

The local ordinance also limits the days and times of construction operation (for noise considerations), provides specific supplemental requirements for certain unique and/or stationary noise sources, and provides additional components for the investigation and reporting of conditions and complaints, measuring and interpreting of exposure levels, enforcement of violations, eligibility and processing of variance requests from the requirements, and further explanation and interpretation of the ordinance.

4.2.6 Existing Local Noise Conditions

An existing profile of the noise environment of the City of Redondo Beach has been developed through field measurement/research and interpolation of measured noise exposure levels. As a basic measure for context, the reader should be aware that the overall day-night average (Ldn) overall (ambient) noise level exposure for moderate-sized urbanized areas such as the City of Redondo Beach generally ranges in the area of 55-58 decibels.

Although it is difficult (even through the use of "high-tech" measuring devices) to determine and quantify how much each individual noise source contributes to overall noise levels at any one time, it is clear that the impacts of noise generated by a number of stationary noise sources becomes more noticeable in the evenings, after the majority of noise that can be attributed to higher traffic levels in the afternoon peak period declines.

The reader should keep in mind that the levels of noise generated by vehicular traffic at any one point vary according to the volume of traffic, the percentage of trucks within the traffic stream, the speed of vehicles within the traffic stream, the time distribution of the traffic, and the grade of the road segment.

Noise measurements for the following analysis were conducted by an Envicom Corporation staff field research team using a Bruel and Kjaer type 2225 noise meter, utilizing the A-weighted decibel noise level scale.

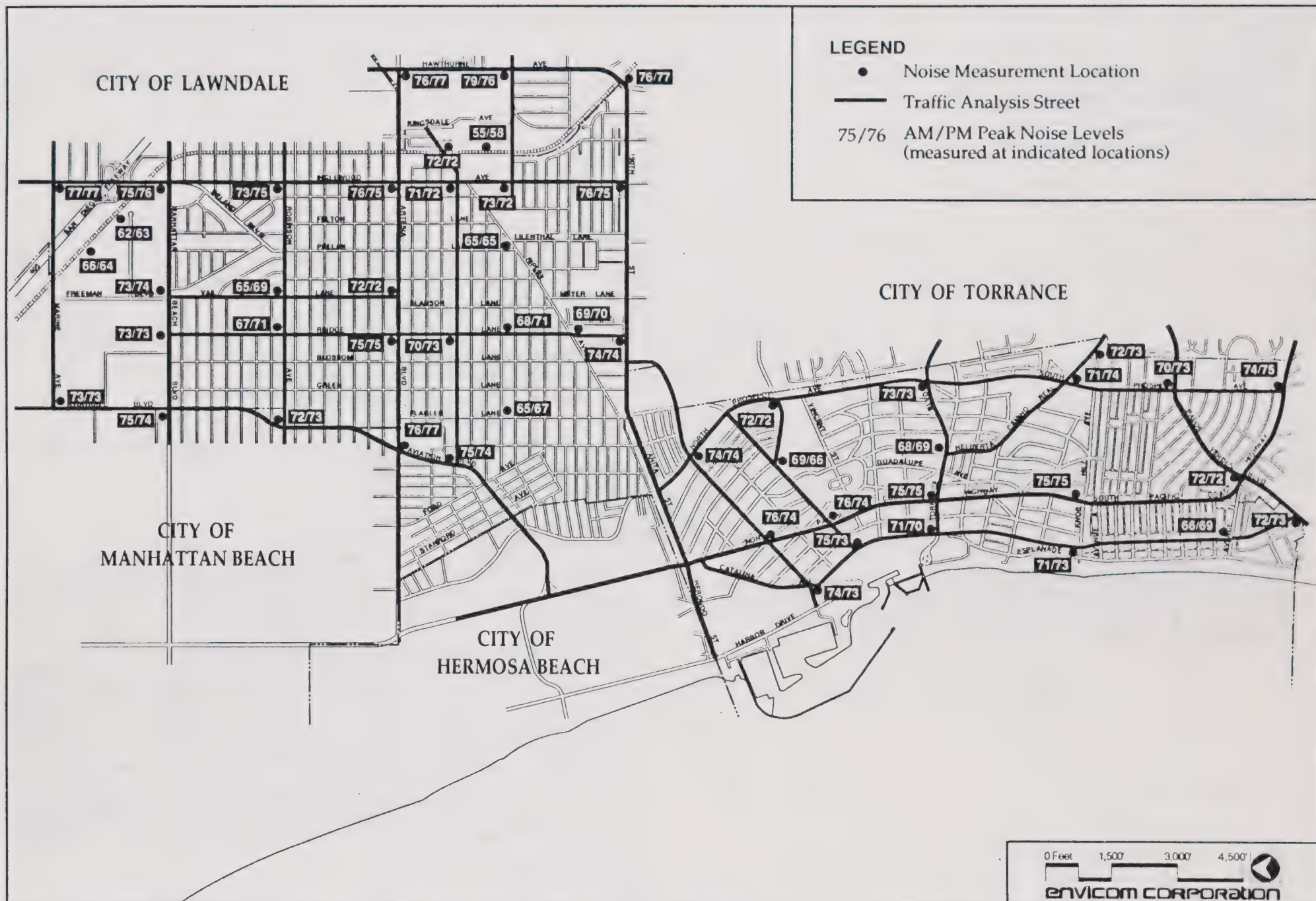
Overall peak hour noise level measurements were taken at a total of fifty specific locations or intersections across the community (thirty in North Redondo Beach and twenty in South Redondo Beach). Additional measurements were interpolated mathematically (based on average daily traffic volumes) for supplemental segments of streets in certain areas of the city, to ensure a more complete and comprehensive

coverage of the city. Measurements were recorded during the morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak hours, in order to ensure a "worst-case" analysis that takes into consideration the maximum overall (ambient) noise and traffic period (for environmental purposes). The geographic locations of these overall (ambient) noise level measurements and interpolations and their recorded noise levels throughout the City are indicated (**Figure 42** and **Figure 43**).

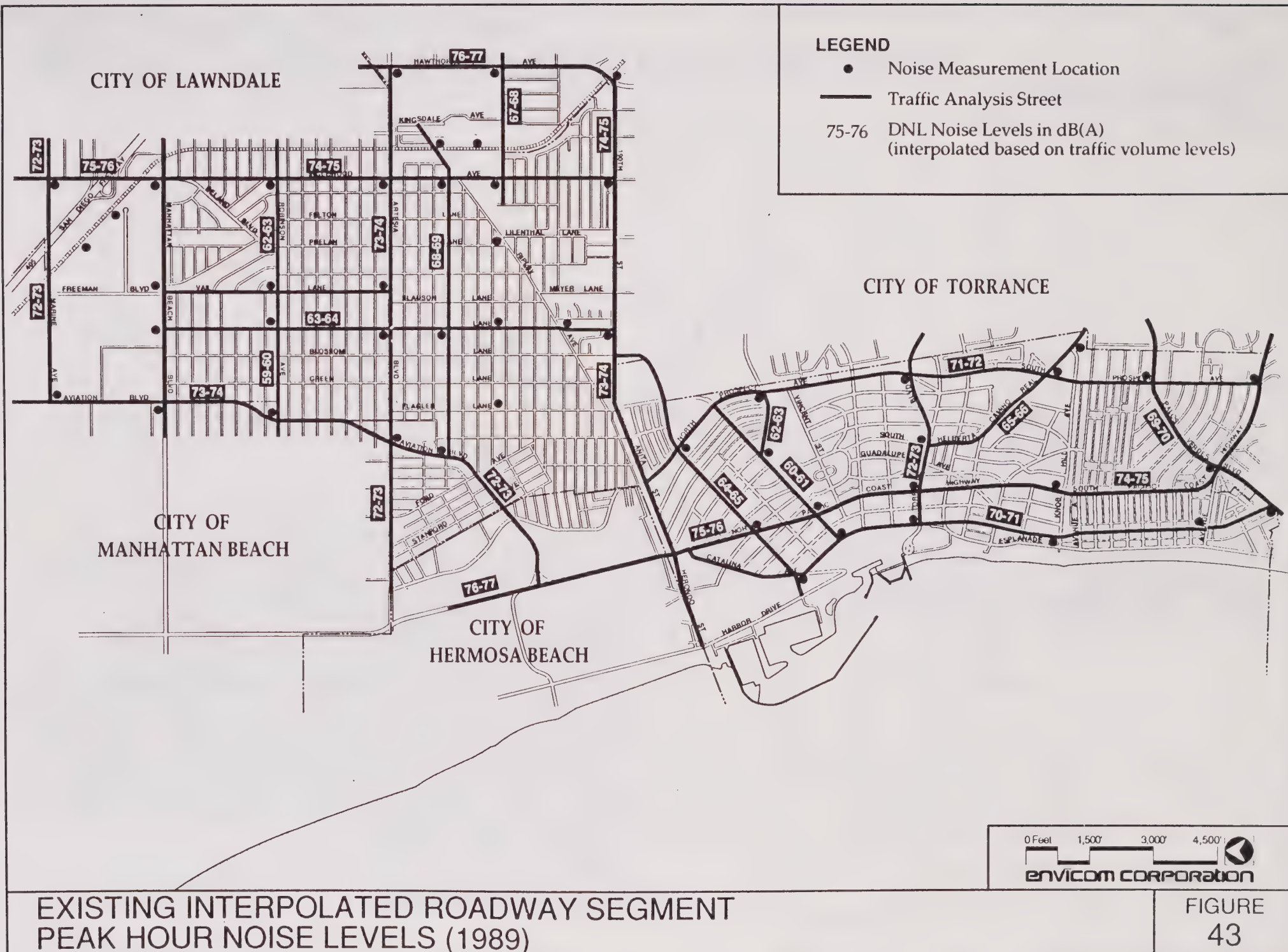
Contours depicting the generalized existing overall noise conditions in the City of Redondo Beach are also shown (**Figure 44**). In reviewing the contour illustrations, the reader should be aware that, because it is physically and mathematically impossible without taking readings at every point along the contour (virtually every lot or parcel in the City) no adjustment has been made to the contours to reflect the buffering or filtering of the noise that actually occurs (from fences, structures, and landscaping) as the sound waves extend out away from the roadways. Hence, these contours represent the "worst-case" depiction of these noise levels; the actual noise levels decline more rapidly (in some areas substantially) based on the specific presence of these various buffering or filtering features.

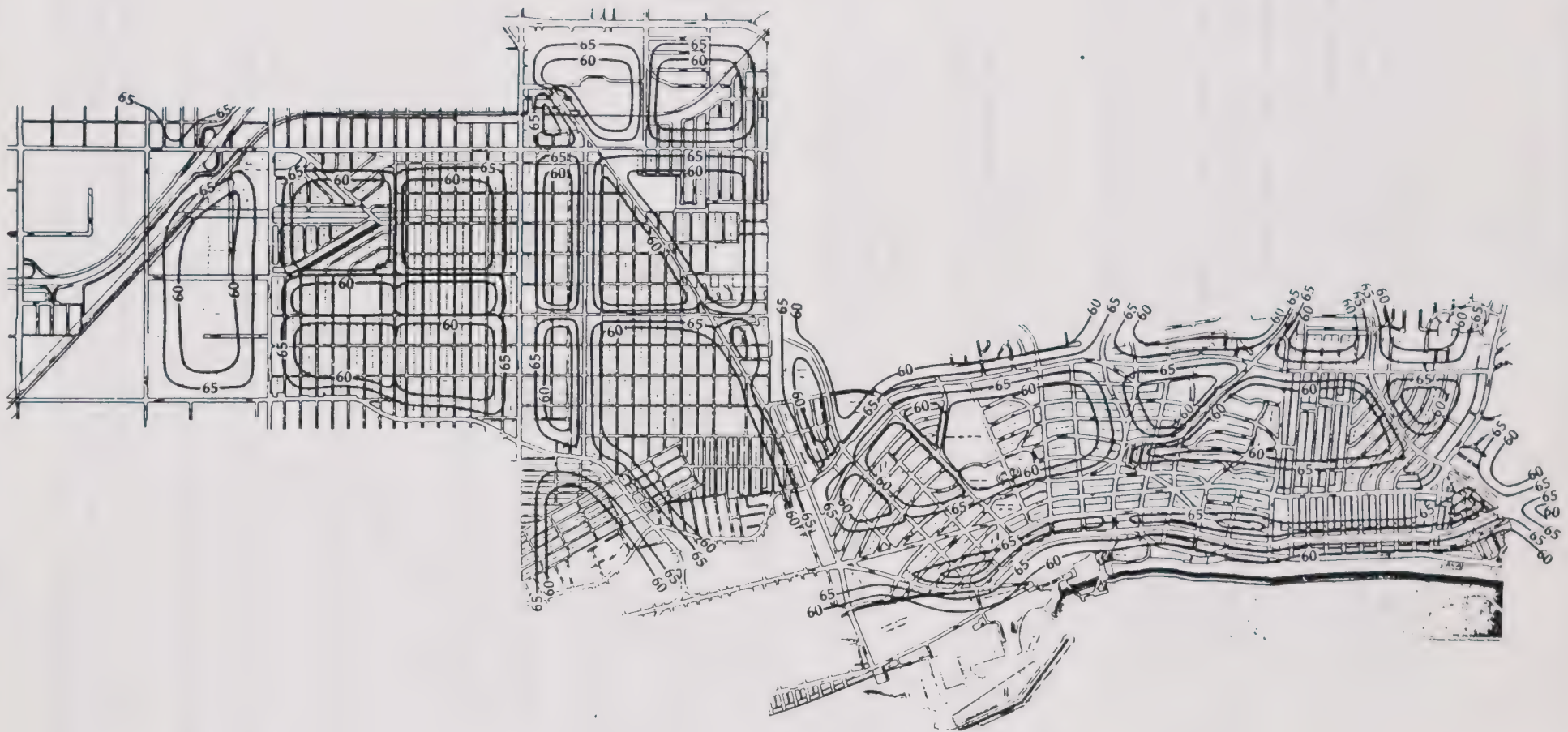
As the figure indicates, the areas in the City of Redondo Beach which are subject to exposure to the greatest noise levels are generally located directly adjacent to the most intensely traveled roadway segments and intersections in the community. These areas include:

- (1) Areas with peak hour noise exposure level readings ranging between 76 and 79 decibels (generating day-night average (Ldn) overall (ambient) noise levels ranging between 71 and 75 decibels) include:
 - Inglewood Avenue, between Marine Avenue and Manhattan Beach Boulevard (generally due to noise impacts generated by traffic volumes on the San Diego (405) Freeway;
 - Hawthorne Boulevard, between Artesia Boulevard and 182nd Street (adjacent to the Galleria at South Bay);
 - Artesia Boulevard, at its respective intersections with Inglewood Avenue and Aviation Boulevard;
 - 190th Street between Hawthorne Boulevard and Inglewood Avenue; and
 - Pacific Coast Highway, between Anita Street/Herondo Street and Torrance Boulevard.



NOISE MEASUREMENT LOCATIONS AND EXISTING MEASURED
PEAK HOUR NOISE LEVELS (1989)





NOISE CONTOURS--1989 (Ldn dBA)

FIGURE
44

(2) Areas with peak hour noise exposure level readings between 71 and 75 decibels (generating day-night average (Ldn) overall (ambient) noise levels ranging between 66 and 70 decibels) include:

- Marine Avenue, between Inglewood Avenue and Aviation Boulevard;
- Manhattan Beach Boulevard, between Inglewood Avenue and Aviation Boulevard;
- Artesia Boulevard, between Hawthorne Boulevard and Aviation Boulevard;
- Aviation Boulevard, between Marine Avenue and the City of Hermosa Beach municipal boundary (west of Harper Avenue);
- Inglewood Avenue, between Manhattan Beach Boulevard and 190th Street;
- Grant Avenue, between Kingsdale Avenue and Inglewood Avenue;
- Pacific Coast Highway, between Torrance Boulevard and the City of Torrance municipal boundary (east of South Prospect Avenue);
- Torrance Boulevard, between Catalina Avenue and the City of Torrance municipal boundary (east of South Prospect Avenue);
- Catalina Avenue, between Pacific Coast Highway and Knob Hill Avenue, and between Avenue "I" and the City of Torrance boundary (south of Palos Verdes Boulevard);
- Camino Real, between South Prospect Avenue and the City of Torrance municipal boundary (east of its intersection with Knob Hill Avenue); and
- Prospect Avenue, between Anita Street and Pacific Coast Highway

4.2.7 Conformance with State Guidelines

The vast majority of areas within the City of Redondo Beach are currently exposed to environments of overall (ambient) noise levels within the maximum recommended "normally acceptable" exterior noise levels contained within the aforementioned state guidelines.

It is, however, important to remember that there is some chance that these acceptable conditions may be impacted and, in some cases, exceeded during specific short-term periods by noise generated by one or more of the stationary noise sources that may not have been operating or emitting noise at the actual times of the overall

(ambient) noise measurements. As was previously described, the actual contribution and potential impacts of noise generated by these sources are described and analyzed within the "stationary source" portion of this section of the document.

Single family residential areas within the city that are currently exposed to overall (ambient) noise levels potentially greater than the 60 decibel maximum State-recommended "normally acceptable" exterior noise level are shown (**Figure 45**).

Multi-family residential areas within the community that are currently exposed to overall (ambient) noise levels potentially greater than the 65 decibel maximum State-recommended "normally acceptable" exterior noise level are shown (**Figure 46**).

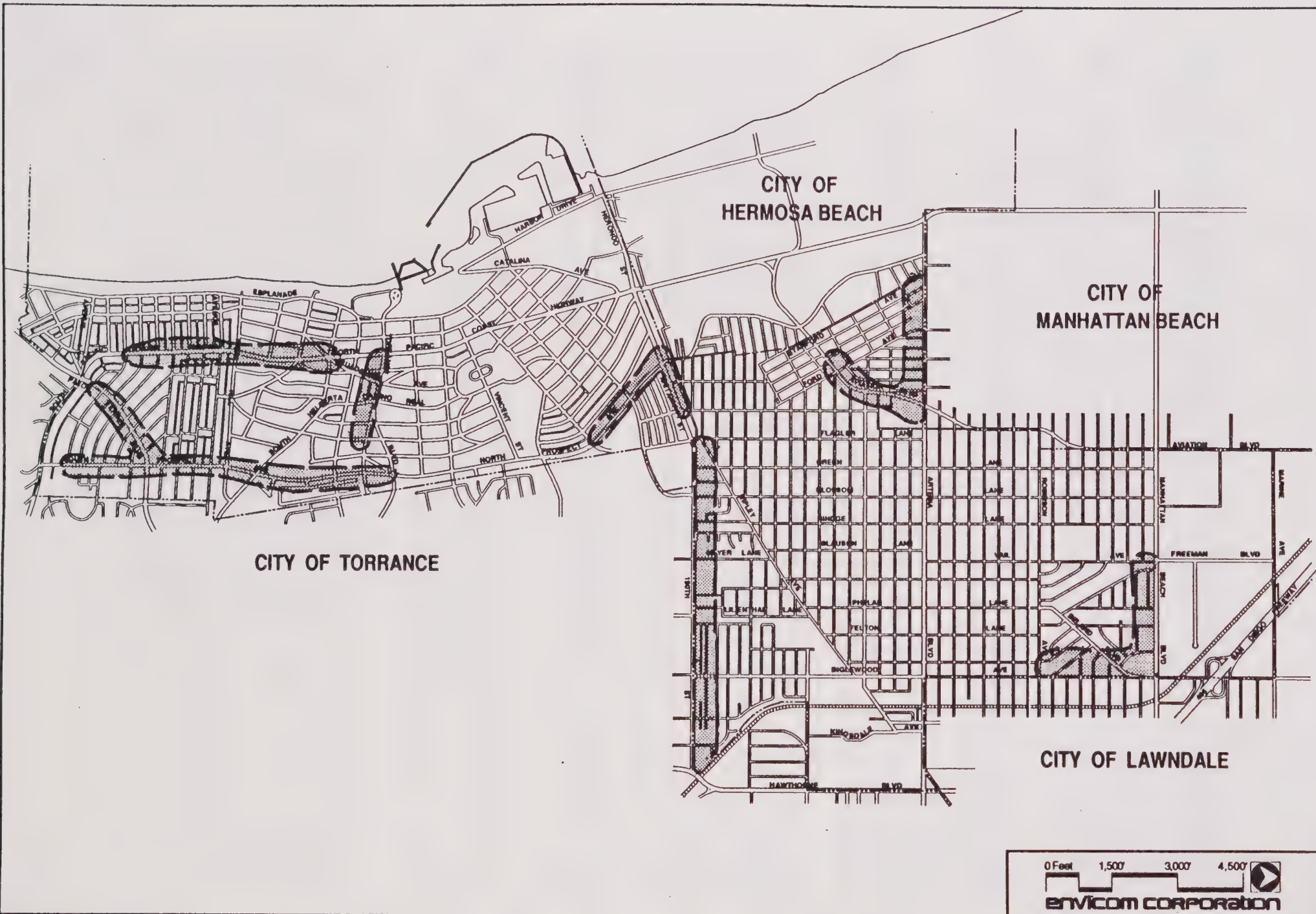
Commercial areas within the community that are currently exposed to noise levels potentially greater than the 70 decibel maximum state recommended "normally acceptable" exterior noise level are shown (**Figure 47**).

No institutional or public/governmental use structures within the community are currently exposed to noise levels greater than the 70 decibel maximum State-recommended "normally acceptable" exterior noise level (several of the parking lot frontages or front yard setbacks of these structures may be exposed to overall noise at or near this level, but the noise decreases to the "normally acceptable" level as it extends out from the roadway through the distances of the frontages or setbacks to the actual structures).

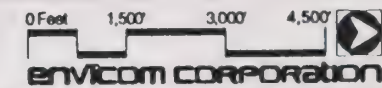
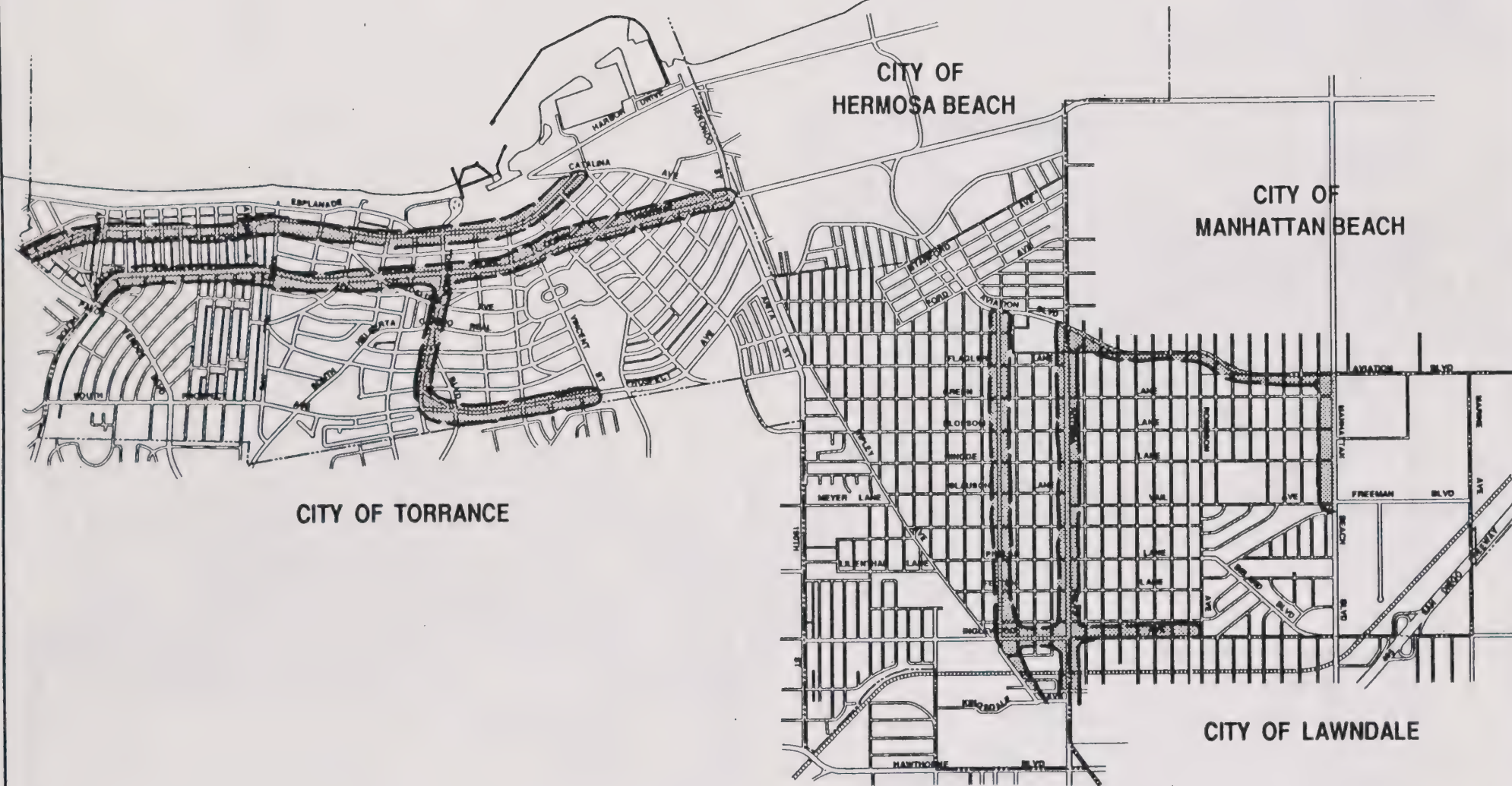
No existing industrial areas within the city are currently exposed to noise levels greater than the 75 decibel maximum State-recommended "normally acceptable" exterior noise level.

The vast majority of all "sensitive noise receptors" within the city are also located within areas currently exposed to environments of overall (ambient) noise within the maximum recommended "normally acceptable" exterior noise level of 70 decibels contained within the state guidelines.

These receptors include: 1) South Bay Hospital, whose surface parking area and structure is subject to exposure to average daily noise levels in the range of 68 to 70 decibels, but is not subject to exposure to levels higher than the maximum permitted State-recommended noise level exposure of 70 decibels; and 2) the vast majority of local public school and public open space facilities, whose parking areas and open space areas directly fronting major streets are exposed to average daily noise exposure levels in the range of 62 to 69 decibels, but are not subject to exposure to levels higher than the maximum permitted State-recommended average daily noise exposure level of 70 decibels.



SINGLE FAMILY AREAS PRESENTLY EXCEEDING STATE EXTERIOR NOISE GUIDELINES



MULTI-FAMILY AREAS PRESENTLY EXCEEDING STATE EXTERIOR NOISE GUIDELINES

FIGURE
46

FIGURE
47

The only specific exception to this status is the portion of the Redondo Union High School property (primarily the auditorium structure) immediately fronting onto Pacific Coast Highway, which is exposed to average daily noise exposure levels of 69 to 71 decibels, at or slightly above the maximum permitted State-recommended average daily noise exposure level of 70 decibels.

4.2.8 Conformance With City Guidelines

Due to the relatively high average daily overall (ambient) noise exposure levels city-wide (55 to 58 decibels) (normal for urbanized areas) and the more restrictive nature and requirements of the specific standards and maximum permitted noise exposure levels contained within the City of Redondo Beach Noise Ordinance, the vast majority of areas within the City of Redondo Beach (particularly those adjacent to public roadways and rights of way) are currently exposed to environments of overall (ambient) noise at or slightly above the permitted maximum allowed exterior noise exposure levels.

Differences and reductions in the overall (ambient) noise exposure levels across the community do occur, however, due to normal reduction caused by attenuation and rates of distance from specific noise generating sources, changes in the time of day, reductions or changes in traffic volumes, changes in weather and atmospheric conditions, and changes in other acoustic-related factors.

These changes cause certain areas in the community which often times are exposed to noise exposure levels above the maximum permitted city guidelines, to fall within or below these maximum permitted city guidelines for certain short, and/or extended periods of time.

Because these changes are extremely subtle and difficult to quantify and occur at and across a great range of times and conditions, the specific actual conformance of all areas in the city relative to maximum permitted local noise level exposure guidelines cannot be conclusively and comprehensively determined within the scope of this analysis.

Installation and maintenance of common building insulation materials and treatments and standard industry-wide acoustical-related construction practices, which greatly reduce exterior noise level exposure levels, will, however, bring the vast majority of structures in the community exposed to greater than permitted maximum exterior noise levels into conformance with the maximum permitted ranges of interior noise level exposure established under state and local noise guidelines.

4.2.8 Future City-Wide Noise Conditions

One important function of the Noise Element of the General Plan is to forecast the future, or “post-project” overall (ambient) noise increases and conditions that could be expected to exist in the community at the end of the “horizon” or projected life span of the updated General Plan (in this case the year 2010).

As previously described in the existing conditions component of this section, the overall (ambient) noise conditions and impacts experienced within the City of Redondo Beach are primarily a function of noise generated by local and regional traffic volumes and geographic trip distribution. For this reason, the future noise conditions of the community can be reliably estimated through conducting a mathematical and graphic interpolation/adjustment of the existing noise conditions to reflect local and regional traffic volume increases or decreases and geographic trip distribution patterns that are expected to occur when the land uses and building densities permitted in the community under the updated Land Use Plan of the General Plan are built out to their maximum level.

As one might logically conclude, the geographic locations and areas where the major projected increases or decreases in noise conditions and impacts in the community are expected to occur essentially coincide with the areas where major increases or decreases in traffic volumes/trip distribution are expected to occur.

The reader should be aware, however, that the changes in future noise levels are based on logarithmic and exponential mathematical functions, not proportionate mathematical functions (i.e., specific increases or decreases in traffic volumes do not necessarily generate directly proportionate increases or decreases in noise levels).

The basic functional result of this dynamic in generating future noise level projections is that areas with higher existing noise levels need to experience much higher percentage increases or decreases in noise levels to reflect any actual mathematical or audible change in the noise level than areas with lower existing noise levels.

In practice, this dynamic may be illustrated as follows: a ten percent increase in traffic volumes on a more highly-traveled thoroughfare [Artesia Boulevard, Inglewood Avenue, Pacific Coast Highway, etc.] may not generate any mathematical or audible change in noise levels in those areas of the community; whereas a similar ten percent increase in traffic volumes on a less-traveled thoroughfare [Beryl Street, Diamond Street, Camino Real, Palos Verdes Boulevard, etc.] may generate a mathematical or audible change in noise level in those areas of the community.

The areas directly adjacent to the following listed thoroughfares are expected to experience the following changes (increases or decreases) in overall noise levels following a full buildout of the land uses and building densities permitted under the updated Land Use Plan and impacts from regional growth-related traffic increases occurring during this period (**Table 51**). When reviewing the list of thoroughfares and respective levels of change, the reader should be aware that an increase of three (3) decibels is the industry-accepted threshold whereupon human beings with average hearing can be expected to perceive an actual change in audible noise.

Based on the aforementioned mathematical/graphic interpolation and adjustment of existing noise conditions to reflect local and regional traffic volume increases or decreases and vehicle trip distribution changes, projected noise contours have also been developed and depicted for the community, indicating the overall (ambient) noise levels that may be expected to occur when the land uses and building densities permitted in the community under the Land Use Plan of the updated General Plan are built out to their maximum level, as well as impacts from regional growth-related traffic increases occurring during this period (**Figure 48**).

Although the overall noise level increases in the City of Redondo Beach projected from the maximum buildout of the Land Use Plan are not overly significant (from a perceived audible change to the average human), the changes do force the contours to “expand out” to a moderate degree. In practice, this causes a number of additional areas in the community which are currently not exposed to overall (ambient) noise levels which are greater than the maximum state recommended “normally-acceptable” exterior noise levels to be exposed to levels which are greater than the maximum State-recommended “normally-acceptable” exterior noise levels.

Single family residential areas within the city that are presently exposed to overall (ambient) noise levels within the 60 decibel maximum state recommended “normally-accepted” exterior noise levels that will potentially be exposed to overall (ambient) noise levels greater than the 60 decibel maximum State-recommended “normally-acceptable” exterior noise level following a maximum buildout of the land uses and building densities permitted under the Land Use Plan of the updated General Plan are shown (**Figure 49**).

Multi-family residential areas within the City that are presently exposed to overall (ambient) noise levels within the 65 decibel maximum State-recommended “normally-accepted” exterior noise levels that may be exposed to overall noise levels greater than the 65 decibel maximum state recommended “normally-acceptable” exterior noise level following a maximum buildout of the Land Use Plan are shown (**Figure 50**).

TABLE 51

**Primary Projected Ambient Noise Level Changes
(Following Maximum Buildout of Land Use Plan to year 2010)**

North Redondo Beach

Marine Avenue (between Inglewood Avenue and Aviation Boulevard) a 1.4 decibel increase, from 67.5 decibels to 68.9 decibels.

Manhattan Beach Boulevard (between Inglewood Avenue and Aviation Boulevard) a 1.7 decibel increase from 67.5 decibels to 69.2 decibels.

Robinson Street (between Inglewood Avenue and Aviation Boulevard) a 0.8 decibel increase, from 57.5 decibels to 58.3 decibels.

Artesia Boulevard (between Hawthorne Boulevard and Harper Avenue) a 0.8 decibel increase, from 68.5 decibels to 69.3 decibels.

Grant Avenue (from Ripley Avenue to Aviation Boulevard) a 0.6 decibel increase, from 63.5 decibels to 64.1 decibels.

182nd Street (from Hawthorne Boulevard to Inglewood Avenue) a 0.1 decibel increase, from 62.5 decibels to 62.6 decibels.

190th Street (from Inglewood Avenue to Flagler Lane) a 0.6 decibel increase, from 69.5 decibels to 70.1 decibels.

Hawthorne Boulevard (between Artesia Boulevard and 182nd Street) a 0.7 decibel increase, from 71.5 decibels to 72.2 decibels.

Inglewood Avenue (between Marine Avenue and Grant Avenue) a 0.6 decibel increase, from 69.5 decibels to 70.1 decibels, (between Grant Avenue and 190th Street) a 1.6 decibel increase, from 65.5 decibels to 67.1 decibels.

Vail Avenue (from Robinson Street to Artesia Boulevard) a 0.8 decibel increase, from 56.5 decibels to 57.3 decibels.

Rindge Lane (from Artesia Boulevard to 190th Street) a 0.8 decibel increase, from 65.5 decibels to 66.3 decibels.

Aviation Boulevard (from Marine Avenue to Artesia Boulevard) a 1.0 decibel increase, from 68.5 decibels to 69.5 decibels, (between Artesia Boulevard and Harper Avenue) a 2.0 decibel increase, from 69.5 decibels to 71.5 decibels.

TABLE 51 (Cont.)

South Redondo Beach

North Prospect Avenue (from Anita Street to Diamond Street) a 0.5 decibel increase, from 68.0 decibels to 68.5 decibels, (from Diamond Street to Pacific Coast Highway) a 1.3 decibel increase, from 68.5 decibels to 69.8 decibels.

Pacific Coast Highway (from Anita Street to Torrance Boulevard) a 0.3 decibel increase, from 70.5 decibels to 70.8 decibels, (from Torrance Boulevard to South Prospect) a 0.2 decibel increase, from 70.0 decibels to 70.2 decibels.

Catalina Avenue (from Anita Street to Torrance Boulevard) a 0.5 decibel increase, from 68.5 decibels to 69.0 decibels, (from Torrance Boulevard to Palos Verdes Boulevard) a 0.7 decibel increase, from 68.0 decibels to 68.7 decibels.

Anita Street/Herondo Street (from Flagler Lane to Harbor Drive) a 0.5 decibel increase, from 68.5 decibels to 69.0 decibels.

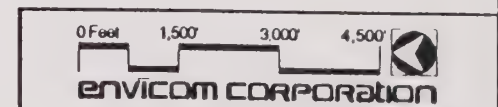
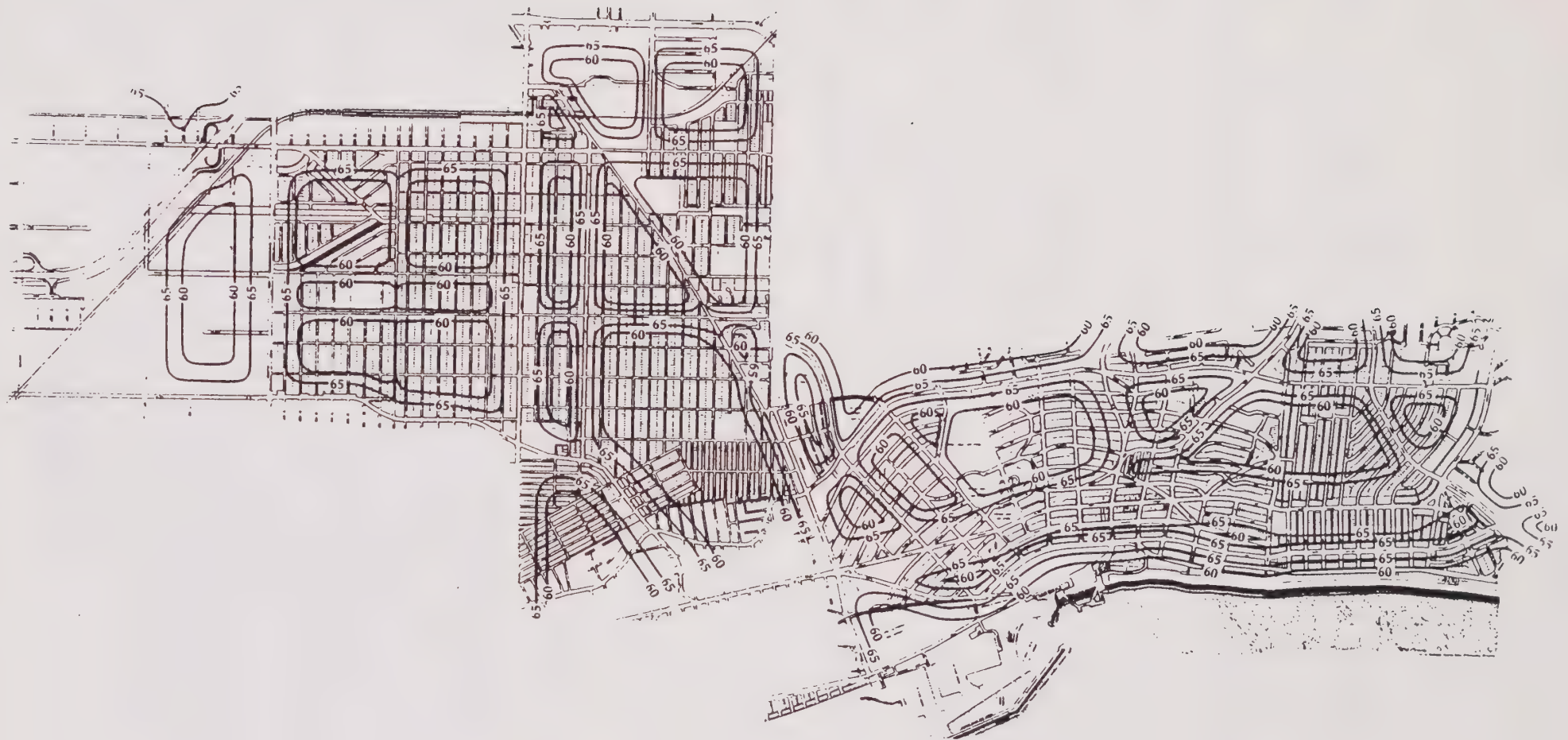
Beryl Street (from 190th Street to North Catalina Avenue) a 4.6 decibel increase, from 59.5 decibels to 64.1 decibels.

Diamond Street (from Prospect Avenue to Pacific Coast Highway) a 3.6 decibel increase, from 55.5 decibels to 59.1 decibels.

Torrance Boulevard (from the City of Torrance municipal boundary to Catalina Avenue) a 1.6 decibel increase, from 67.5 decibels to 69.1 decibels.

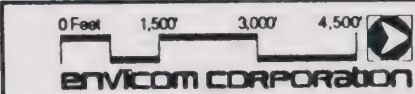
Camino Real (from Torrance Boulevard to the City of Torrance municipal boundary) a 3.7 decibel increase, from 60.5 decibels to 64.2 decibels.

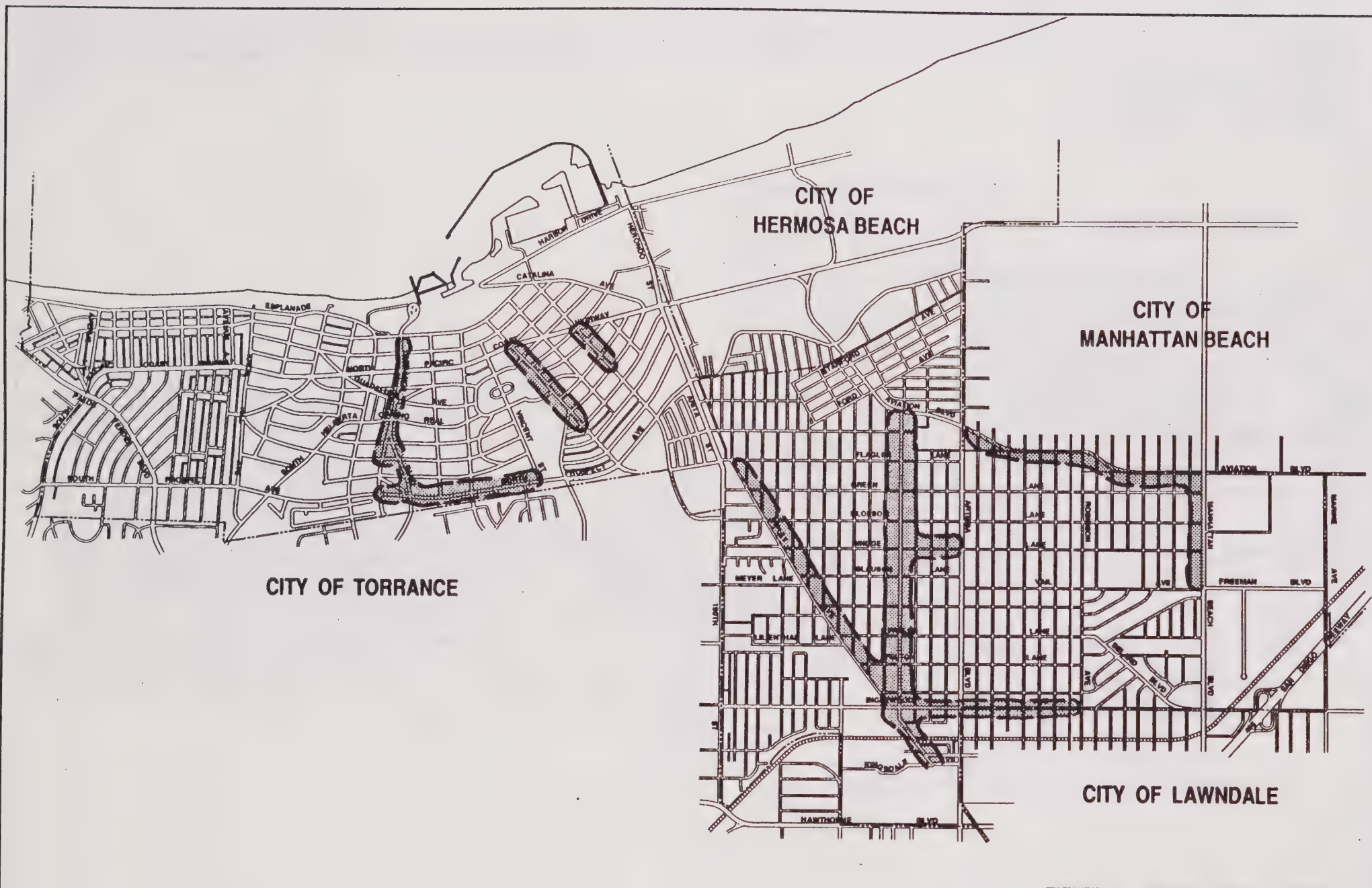
Palos Verdes Boulevard (from the City of Torrance municipal boundary to Pacific Coast Highway) a 1.2 decibel increase, from 64.5 decibels to 65.7 decibels.



FUTURE NOISE CONTOURS--2010 (Ldn dBA)

FIGURE
48

FIGURE
49



ADDITIONAL MULTI-FAMILY AREAS EXPECTED TO EXCEED STATE EXTERIOR
NOISE GUIDELINES (2010)

FIGURE
50

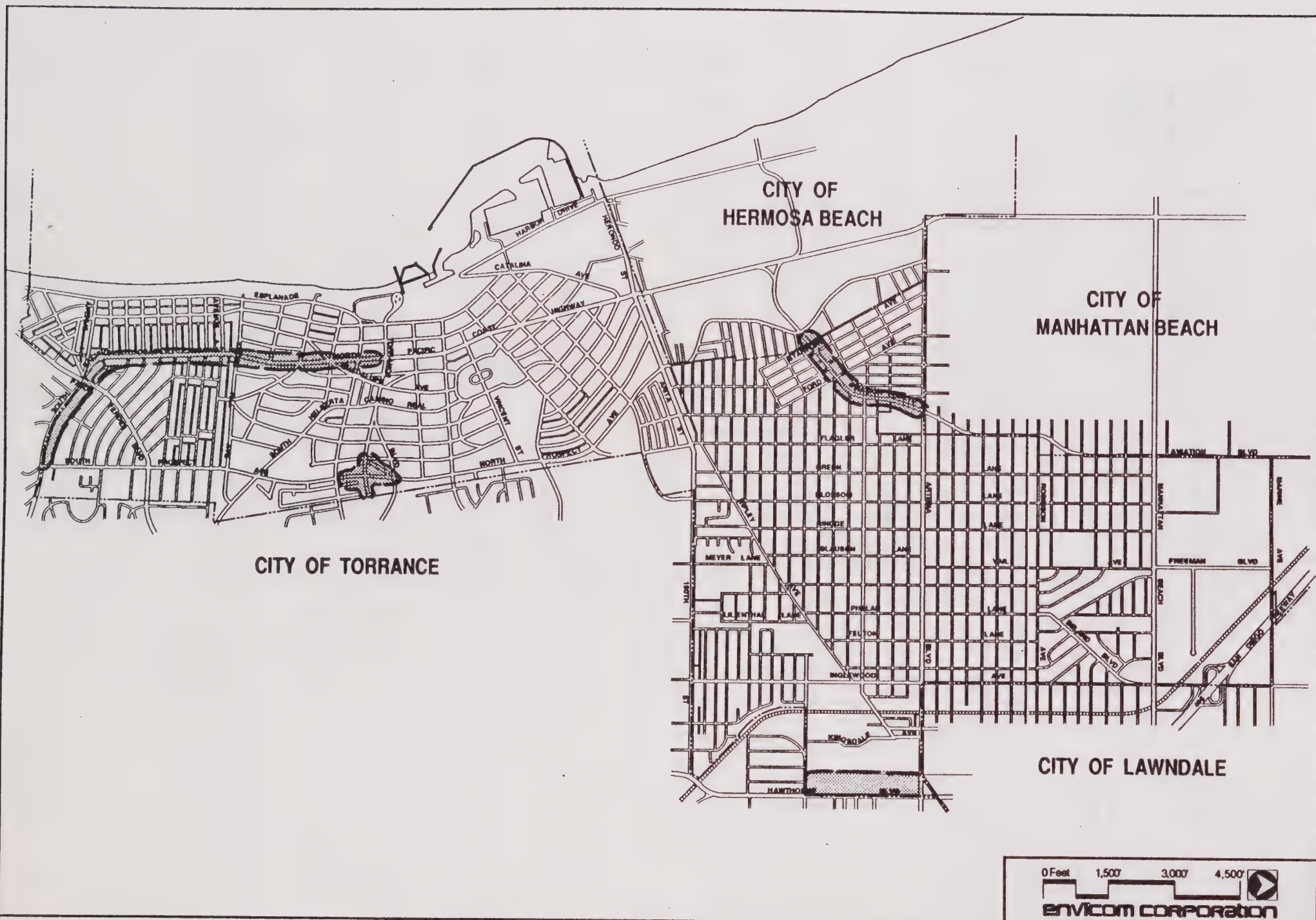
Commercial areas within the City that are presently exposed to overall (ambient) noise levels within the 70 decibel maximum State-recommended "normally-accepted" exterior noise levels that may be exposed to overall (ambient) noise levels greater than the 70 decibel maximum state recommended "normally-acceptable" exterior noise level following a maximum buildout of the Land Use Plan are shown (Figure 51).

Several institutional or public/governmental use structures within the community not presently exposed to noise levels greater than the 70 decibel maximum State-recommended "normally acceptable" exterior noise level may be exposed to noise levels greater than the 70 decibel maximum State-recommended "normally acceptable" exterior noise level. These areas are shown (Figure 52), and include:

- The North Redondo Beach branch of the United States Post Office, located on the north side of Artesia Boulevard, between Rindge Lane and Blossom Lane;
- The former Aviation High School structure, presently being renovated into a public, multi-use, community assembly and recreational facility, located on the east side of Aviation Boulevard north of Manhattan Beach Boulevard;
- The City of Redondo Beach City Hall Annex (presently housing the City of Redondo Beach Community Services Department and Police Investigative Unit), located at the northeastern corner of the intersection of Pacific Coast Highway and Emerald Street;
- The City of Redondo Beach Community Resources Center (the former Patterson School) located at the southwest corner of the intersection of Pacific Coast Highway and Knob Hill Avenue; and
- The eastern half of the parcel occupied by the existing Redondo Beach Civic Center facility, located on the western side of Pacific Coast Highway (between Carnelian Street and Diamond Street).

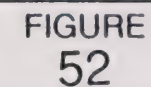
Even following a maximum buildout of the land uses and building densities permitted under the Land Use Plan of the updated General Plan, no industrial areas within the city will be exposed to noise levels greater than the 75 decibel maximum State-recommended "normally acceptable" exterior noise level.

The vast majority of all "sensitive noise receptors" within the city are also located within areas currently exposed to environments of overall (ambient) noise within the maximum recommended "normally acceptable" exterior noise levels contained within the State guidelines.



ADDITIONAL COMMERCIAL AREAS EXPECTED TO EXCEED STATE EXTERIOR
NOISE GUIDELINES (2010)

FIGURE
51



Several “sensitive noise receptors” within the community presently located within areas currently exposed to environments of overall (ambient) noise within the maximum recommended “normally acceptable” exterior noise levels contained within the State guidelines may be exposed to noise levels greater than the maximum recommended “normally acceptable” exterior noise levels following a maximum buildout of the land uses and building densities that will be permitted under the Land Use Plan of the updated General Plan. The facilities are shown (Figure 52), and include:

- The northern and western one-third of the parcel occupied by the South Bay Hospital, located east of North Prospect Avenue (between Beryl Street and Diamond Street);
- The western frontage of the Tulita School, along South Prospect Avenue, between South Irena Avenue and Avenue H; and
- Additional portions of the Redondo Union High School facility, on the east side of Pacific Coast Highway, between Diamond Street and Vincent Street.

4.2.9 Stationary (Fixed-Source) Noise Component

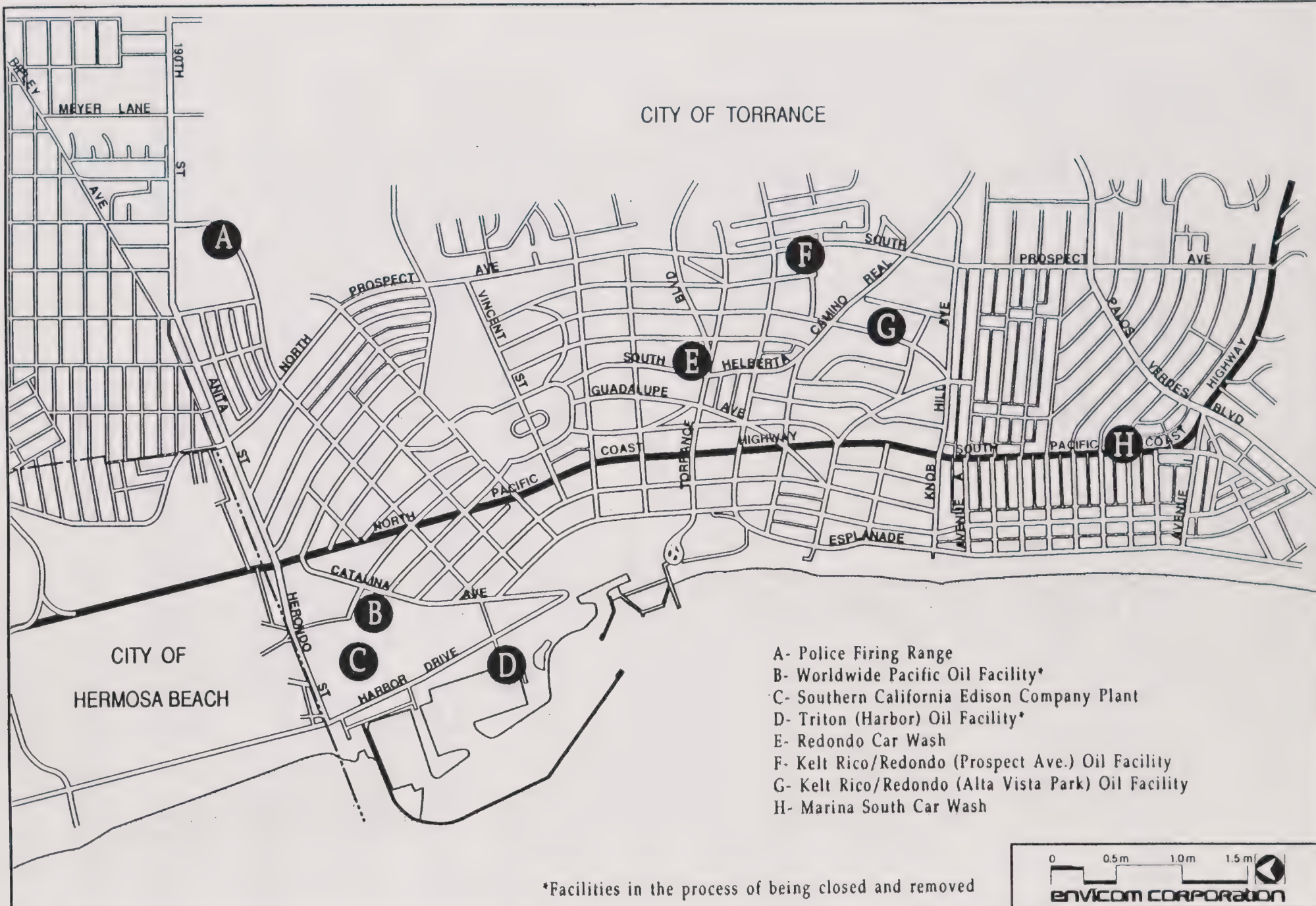
The following portion of the section represents the documentation and analysis of the fixed (or stationary) source component of the City of Redondo Beach Noise Element. For the purposes of the analysis, acoustic (normal frequency) and ground vibration (low frequency) measurements have been taken in and around eight (8) of these sources (identified by the City of Redondo Beach Community Development (Planning) Department as the primary stationary noise generators in the community). Based on these measurements, noise contour maps have been created which reflect the influence of the noise levels generated by each source on the surrounding area.

In addition to this level of analysis, concern has been expressed over the effects of low frequency and infrasonic noise produced by a number of these sources. In order to more fully address these concerns, this report also includes a summary of findings regarding the effects of these low frequency noise impacts on human health and welfare and structural damage.

4.2.10 Stationary (Fixed-Source) Noise Sources Investigated

Measurements were taken to quantify the noise and vibration levels produced by the eight specific following stationary (fixed-source) noise sources (Figure 53):

- Marina South Car Wash (located at the southeasterly intersection of Pacific Coast Highway and Avenue G).



LOCATIONS OF PRIMARY LOCAL STATIONARY NOISE SOURCES

- Redondo Car Wash (located at the northwesterly intersection of Torrance Boulevard and South Irena Avenue).
- Southern California Edison Company Generating Plant (bounded by Herondo Street to the north, Harbor Drive to the west, and Francisca Avenue and Catalina Avenue to the east).
- Triton (Harbor) Oil Pumping Facility (located at the northwesterly intersection of Harbor Drive and Portofino Way) [this facility is in the process of ceasing operations; all wells on the site are being removed].
- Kelt Rico/Redondo Oil Pumping Facility (located near the southwesterly intersection of Prospect Avenue and Pearl Street).
- Kelt Rico/Redondo Oil Pumping Facility (located near the southeasterly intersection of Camino Real and South Juanita Avenue in Alta Vista Park).
- Worldwide Pacific Oil Facility (located on northeast side of Francisca Avenue, due southeast of the intersection of Francisca Avenue and North Gertruda Avenue) [this facility is also in the process of ceasing operations; all machinery on the site will be removed].
- Police Firing Range (located in the southeast corner of Dominguez Park, due south of the intersection of 190th Street and Beryl Street).

4.2.11 Existing Stationary (Fixed-Source) Noise Level Criteria and Regulations

Local Criteria: The City of Redondo Beach, under Chapter 24 Noise Regulation of the Municipal Code, has established noise and vibration exposure guidelines for medium density residential areas of the community as follows:

- 1) The presumed overall (ambient) noise level and noise standard is 50 dB from 10 p.m. to 7 a.m. and 55 dB from 7 a.m. to 10 p.m. Continuous sources of noise are not allowed to exceed these limits. Noises occurring for reduced periods are allowed to exceed the standards on the following schedule (Noise Ordinance 4-24.301):

30 minutes per hour or less	+ 5 dB
15 minutes per hour or less	+ 10 dB
5 minutes per hour or less	+ 15 dB
1 minute per hour or less	+ 20 dB

If the source of noise is located in a different land use category, the lower applicable noise limit, plus 5 dB applies.

If the intruding noise contains pronounced pure tone components, the noise limits are reduced by 5 dB.

- 2) The indoor noise level standard is 40 dB from 10 p.m. to 7 a.m. and 45 dB from 7 a.m. to 10 p.m. Noises occurring for reduced periods are allowed to exceed the standard on the following schedule:

5 minutes per hour or less + 5 dB

1 minute per hour or less + 10 dB

- 3) Ground vibration (acceleration) is limited to .001 G units (-60 dB re 1 G) for frequencies up to 30 Hz and to .003 G units (-50 dB re 1 G) from 30 Hz to 100 Hz (Noise Ordinance 4-24.504).

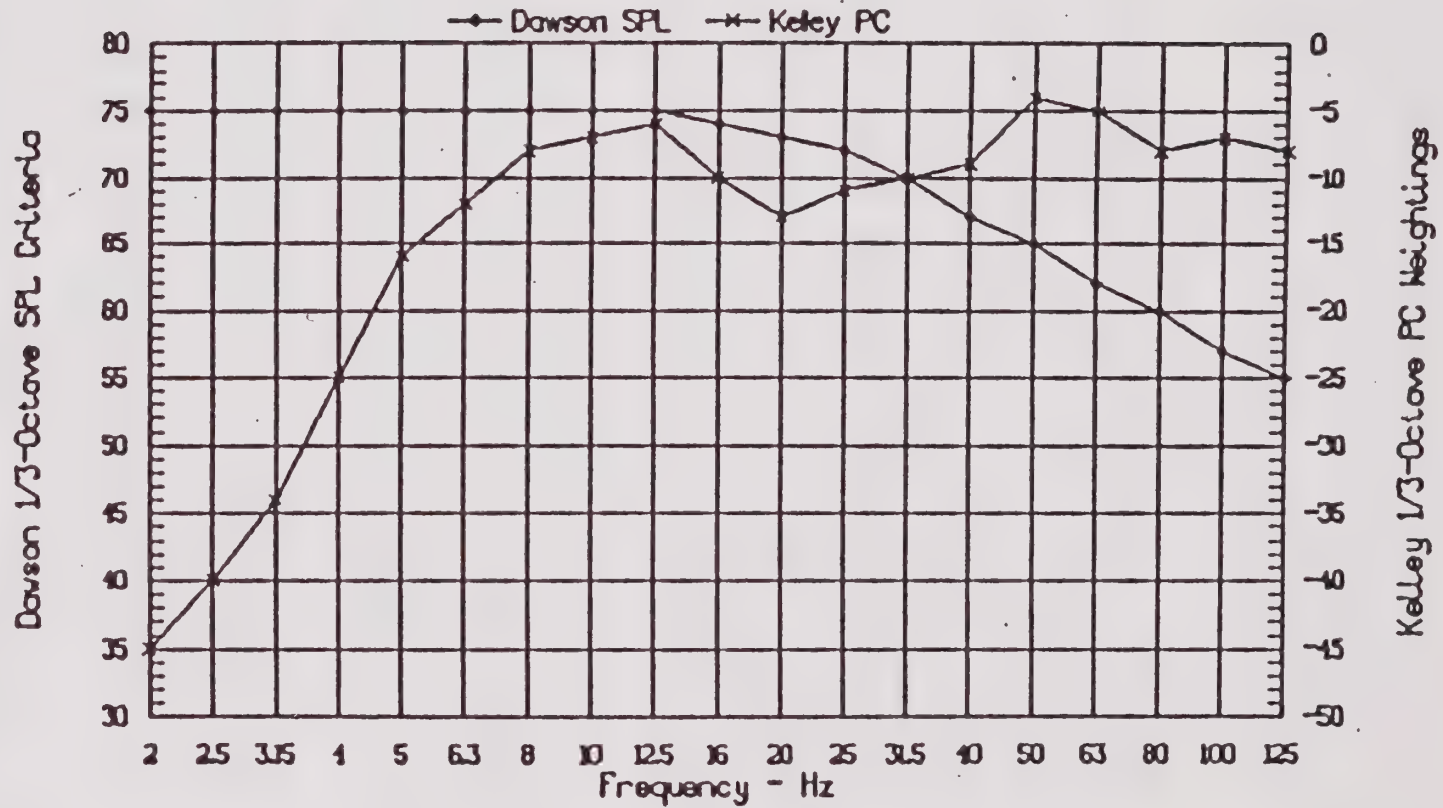
Supplemental Criteria: The American National Standards Institute (ANSI) Section 3.29 "Criteria for Assessment of Vibration in Buildings" provides a somewhat more detailed set of criteria for building vibration. It includes effects of vibration amplitude and frequency, body orientation (standing/sitting vs. reclining), building use, time of day, frequency of occurrence. A criterion curve, applicable to residences at nighttime for a combination of body orientation has been developed from Section 3.29 and reproduced on the graphs of measured vibration data.

Low frequency noise has been established as a potential result of activities at the Southern California Edison Company Generating Plant. The best known criterion for low frequency noise exposure relative to indoor residential impacts is set forth in the paper "A Proposed Metric for Assessing the Potential of Community Annoyance from Wind Turbine Low-Frequency Noise Emissions" by Dr. Neil Kelley of Solar Energy Research Institute, designed for assessment of noise impacts of wind turbines on nearby residences. The metric is based on 1/3-octave band noise levels in the frequency range 5-100 Hz, adjusted for "typical" residential structural response and average human sensitivity (**Figure 54**). Dr. Kelley refers to the metric as PC, and has established the following criteria:

Perception Threshold	68 dB
Annoyance Threshold	75 dB
Unacceptable Threshold	77 dB

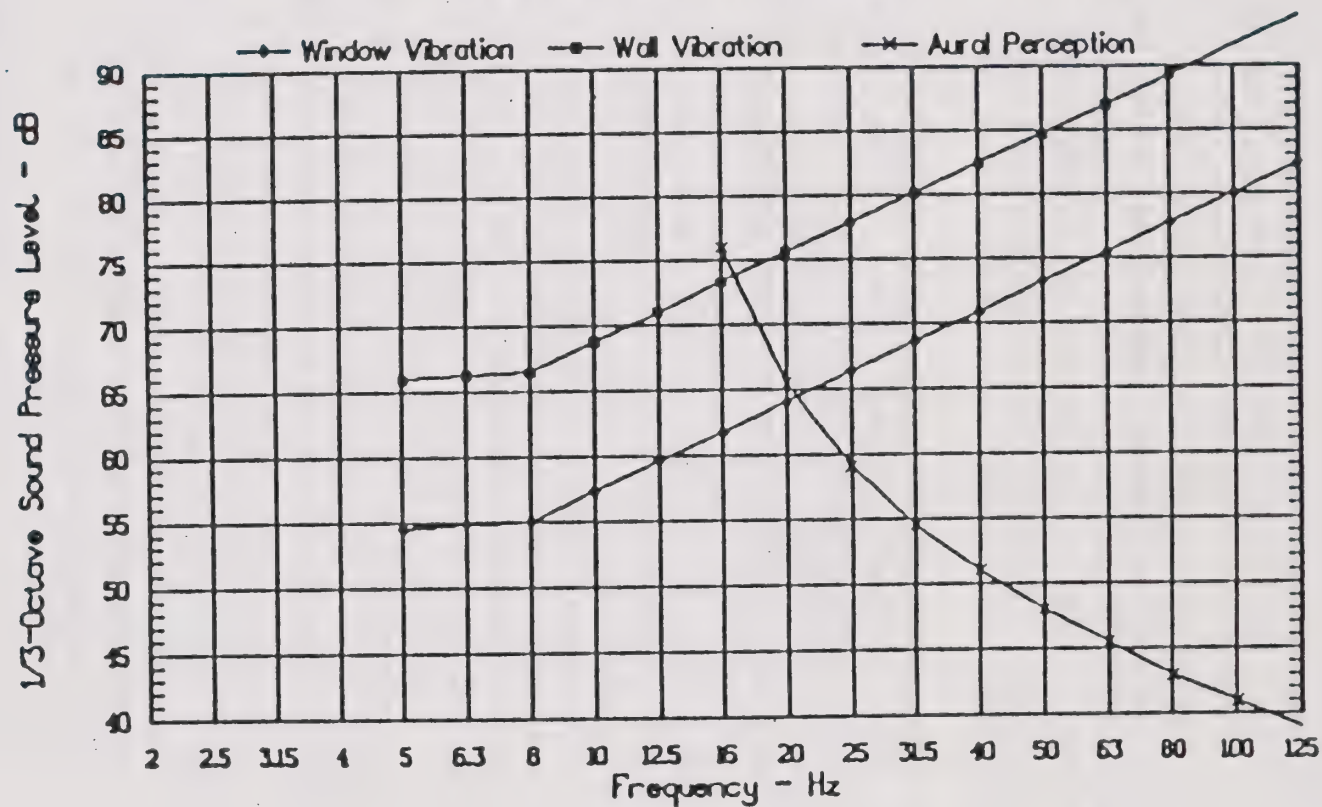
A second reference to low frequency noise criteria is presented in H. Dawson "Practical Aspects of the low frequency noise problem," (*Journal of Low Frequency Noise and Vibration*, January, 1982) which recommends a 1/3-octave band limit in outdoor areas (**Figure 54**). Finally, Hubbard and Shepherd have prepared a set of curves relating outdoor low frequency noise to window and wall vibration potential in typical residences and to the threshold of human hearing (ref. "Physical characteristics and perception of low frequency noise from wind turbines," *Noise Control Engineering Journal*, February, 1991) (**Figure 55**).

Salvation Army
Redondo Beach Facility
Low Frequency Noise Criteria



KELLEY'S/DAWSON'S LOW FREQUENCY NOISE CURVES

Solvation Army
Redondo Beach Facility
Hubbard & Shepherd Low Frequency Noise Criteria



4.2.12 Description of Stationary (Fixed-Source) Sources

At each of the eight stationary noise sources analyzed in the study, one or more noise measurement(s) was taken, at varying distances from the actual source (where feasible). A brief locational and qualitative description of each stationary (fixed-source) source and measurement site follows:

Marina South Car Wash: Gasoline fill up and prep areas are located on the east side of the facility. The main wash line is on the west side, adjacent to Pacific Coast Highway. Drying blowers, located near the north end of the wash line, were judged to be the dominant noise source. Measurements were taken in front of the nearest residences on the north side of Avenue G, one to the north of the facility on the east side of Pacific Coast Highway and one diagonally across the Pacific Coast Highway/Avenue G intersection. Most of the time, noise in the area is dominated by traffic on Pacific Coast Highway. For this reason, noise levels specifically attributable to the car wash were determined by measurements in traffic lulls.

Redondo Car Wash: The main wash line runs east to west (parallel) along Torrance Boulevard exiting near South Irena Avenue, with the vacuum blowers located north of Torrance Boulevard at the rear of the parcel. Noise from the vacuum blowers (located adjacent to residences) and the dryer blowers (located at the eastern end of the wash line, in proximity to residences) were judged to be the dominant noise sources. Except for certain specific periods during peak traffic periods, noise generated by the facility does exceed the overall (ambient) noise level.

Southern California Edison Company Generating Plant: The vast majority of noise on-site is produced by steam turbine generator boilers and associated equipment. The two largest boilers, #7 and #8, are located near the south end of the complex. Measurements were taken at numerous locations throughout the area to the east and southeast of the facility, as well as at one location in the harbor area to the west of the facility.

Triton (Harbor) Oil Facility: Well pumps are distributed across the entire site. The only available measurement site was in the Port Royal Marina parking lot, approximately 25 feet from the west fence of the facility, opposite running pumps. The dominant noise source was a squeaky bearing on one or more of the pumps. This facility is in the process of ceasing operations; all well on the site are being removed.

Kelt Rico/Redondo (Prospect) Oil Facility: Well pumps are aligned in a row along the east side of the facility, with storage tanks to the west. Measurements were taken at three locations. The first was on the east side of Prospect Avenue, at the back side of residences. The second was on the east side of Faye Lane, with one row of homes between the measurement and the pumps. The third was on the east side of Lucia

Avenue, with the microphone positioned to minimize shielding by the storage tanks.

Kelt Rico/Redondo (Alta Vista Park) Oil Facility: Well pumps are aligned in a row along the east side of a fenced area, located between the baseball diamond to the east and tennis courts to the west. One or more of the pumps produces a periodic "clunk" due to a loose connection or bearing. An on-site compressor cycles on and off at 5- to 10-minute intervals and produces a distinct low frequency "buzz." Measurements were taken at two locations. The first was 50 feet from the east fence of the facility, approximately 70 feet from the center of the row of pumps. The second was on the east side of Serpentine Street, a residential street to the west and above the facility, at a distance of approximately 350 feet.

Worldwide Pacific Oil Facility: Pumps, pipe lines and storage tanks are distributed over the facility. Source localization is difficult from outside because of masking created by noise generated by the adjacent Southern California Edison Company Generating Plant. The dominant noise source at the Worldwide Pacific Oil facility appeared to be a noisy pump located approximately one foot from the property line at the southwest corner of North Francisca Avenue. Measurements were taken just outside the facility fence, immediately opposite the audible pump. This facility is also in the process of ceasing operations; all machinery on the site will be removed.

Police Firing Range: Measurements were taken on the west and north sides of the firing area, which is enclosed on the sides by a concrete block wall, but open on the top. Because of coordination problems, measurements were taken for a single police officer firing a pistol in a standard course. The measured levels were extrapolated to represent actual use conditions. The western position was in Dominguez Park, approximately 150 feet from the center of and above the range. The northern position was on the Southern California Edison Company power line easement, approximately 350 feet from the range, 65 feet from the west curb of the street.

4.2.13 Stationary (Fixed-Source) Noise Source Measurement Methodology

The measurement microphone used in the analysis (Bruel & Kjaer 4165) was fitted with a foam windscreen and mounted on a stand, extendible in height to 15 feet, plus 7 feet when placed on top of the measurement van. The microphone was connected to a Larson-Davis Laboratories Type 3100 1/3-octave integrating real time analyzer. This analyzer separates the signal into frequency bands of width approximately 23% of the center frequency. The center frequencies are minimally 1/3-octave apart, so that each successive band center frequency is 1.26 times higher than the previous.

The lowest frequency band on the analyzer is 1 Hz and the highest is 20,000 Hz bandwidth, or frequency resolution at 1 Hz center frequency is therefore 0.23 Hz, at 100 Hz center frequency the resolution is 23 Hz, at 1000 Hz center frequency the

resolution is 230 Hz, etc. The 1/3-octave series of center frequencies and bandwidths provide a convenient analysis tool for the wide range of frequencies to which human hearing is sensitive.

Further, they very approximately track the so-called "critical masking bands" of human hearing. These are the bandwidths of random noise which will just mask a pure tone of the same level.

The Larson-Davis analyzer was connected to a PC-compatible portable computer. The computer instructed the analyzer to gather 15-minute long measurement samples of data. For each 15-minute period, the analyzer measured directly the Leq 15-minute A-weighted, overall, C-weighted, user-weighted (see subsequent discussion) and the 1/3-octave frequency spectrum from 1 Hz to 20,000 Hz. At the rate of 2.5 times per second, the analyzer transferred to the computer the instantaneous value of the A-weighted sound level and the levels of the analysis bands selected by the engineer at the onset of the measurement.

For some of the measurements, these bands were 8 Hz, 20 Hz and 160 Hz 1/3-octaves. For others, the 8 Hz band was replaced by the user-weighting, which was pre-programmed to provide the PC-weighting proposed by N. Kelley for assessment of low frequency noise in communities. The computer stored the individual data samples on magnetic disk and computed statistical levels for each of the four bands.

The signal output from the Larson-Davis analyzer was connected to a Rion type SA-77 spectrum analyzer. This analyzer performs a sophisticated mathematical transformation of the actual acoustic signal, resulting in a frequency spectrum with a resolution equal to the inverse of the length of the captured signal sample. In this case, it was desired to use the spectra to attempt to identify sources of low frequency noise. The upper limit of the spectrum was therefore set to 200 Hz. The frequency resolution was set to 1/4 Hz. For each measurement, 200 individual spectra were calculated and averaged and the result was stored on magnetic disk for subsequent plotting. In some cases, up to three average spectra were computed and stored during one 15-minute 1/3-octave measurement.

During most of the measurements, the Rion analyzer was also used to measure low frequency ground vibration or vibration in structures. This was done by disconnecting the Rion analyzer from the Larson-Davis analyzer and connecting it to a Bruel & Kjaer type 4370 delta-shear piezoelectric accelerometer. Vibration spectra were measured in the same manner as the narrow-band acoustic spectra, except that at some locations, the frequency range was reduced to 0-100 Hz, with 1/8 Hz resolution.

Prior to and following each series of measurements, the calibration of the entire measurement system was checked using a Bruel & Kjaer type 4230 acoustic

calibrator. During each measurement, a written log was kept, noting particular audible source characteristics, times and identifications of intruding noises, etc.

4.2.14 Stationary (Fixed-Source) Data Analysis Format

Each noise measurement taken with the Larson-Davis 1/3-octave analyzer was analyzed as follows:

- The A-weighted and three other band levels were plotted as a function of time for the entire measurement.
- The A-weighted level was plotted as a cumulative statistical distribution.
- The A-weighted and three other band levels were statistically analyzed and tabulated as L_{90} , L_{50} , L_{25} , L_8 , and L_2 for review relative to the City noise ordinance.
- The 13/-octave Leq 15 minute spectrum was plotted and tabulated for frequencies 6.3 Hz and above.
- For sources which were judged to operate essentially continuously, the A-weighted L_{90} values were increased by 6.4 dB to determine Day-Night Average noise levels (Ldn). The L_{90} values were used to minimize the contamination by spurious motor vehicle, aircraft and other noises. Sources that operated during daytime hours only (car washes) were corrected by -3.8 dB to determine Ldn.
- At sources which operate quasi-continuously, with periodic fluctuations in level, contamination-free noise segments were analyzed to determine Leq , which was then converted to Ldn by adding 6.4 dB.

Measurements of narrow band sound and vibration spectra were analyzed as follows:

- The measurement data was plotted as band sound pressure (re 20 micropascals rms) or acceleration level (re 1 G (9.8 m/s^2) rms) vs. frequency. At locations where more than one measurement was taken within a 15-minute interval, all measurements were plotted on a common graph.
- Spectral features such as single tones or narrow ranges of frequency with pronounced concentrations of acoustical or vibrational energy were noted and tabulated.
- Where applicable, the narrow band and 1/3 octave levels were compared for consistency and for potential aural masking of tones.

The measurement data was used, together with aural and visual observations, to create approximate contours of constant noise level (Ldn) around each of the stationary sources. For all but the Southern California Edison Company Generating Plant, this was done by fitting physically feasible models of noise generation, propagation and shielding to the measured noise levels. This resulted in relatively simple contour shapes.

In areas where complex shielding by structures or terrain results in significant uncertainties in the contours, dashed lines have been plotted. In most cases, these contours will be "swamped" by noise from transportation sources or the Southern California Edison Company Generating Plant.

In the area surrounding the Southern California Edison Company Generating Plant, the contours were initially produced by fitting the measured data with a two-dimensional gridding program (Golden Software SURFER IV). Because the gridding program fails for areas outside the measurement area, the contour curves were modified in these areas to reflect physically reasonable propagation characteristics. Both A-weighted Ldn and Kelley PC-weighted low frequency noise contours were computed and plotted.

Noise from the pistol range was analyzed by determining the Sound Exposure Level of individual shots on the range. This was done by "windowing" segments of the recorded sound levels and computing SEL for groups of shots. The individual shot SEL is determined by subtracting $10 \log$ (number of shots) from the group SEL. The time-average sound levels (Ldn, Leq_{1hr} , etc.) are then determined as the average individual shot SEL plus $10 \log$ (number of shots in time period) minus $10 \log$ (number of seconds in time period).

Noise contours were determined based on the computed Ldn for the two measurement locations, together with observations of the shielding characteristics of the building associated with the range.

4.2.15 Study and Analysis Results

A summary of all the noise measurements taken with the 1/3-octave analyzer is presented (Table 52). As was indicated above, in most cases for sources which operate day and night, Ldn was determined by adding 6.4 dB to either the L_{90} value of the measurement or the value of Leq that was clearly attributable to the noise source being investigated.

At sources which operate on an 8 a.m. to 6 p.m. nominal schedule, the Ldn was determined by subtracting 3.8 dB from the noise level which was representative of maximum generation by the source. For example, if car wash equipment cycles down during lulls in business, these "quiet" intervals are not taken into account in the assessment of Ldn, so the results are conservative on the side of overprediction.

TABLE 52

Summary of Stationary Noise Source Measurements
(A-weighted Ldn and Pc-weighted)

Location	Date	Time	L ₉₀	L ₅₀	L ₁₀	Kelley PC
Roof of Salvation Army Chapel	2/26/91	23:47- 00:02	53.9	56.9	60.3	64.3
	2/27/91	03:22- 03:37	53.5	54.0	59.9	63.5
NE Cnr Salvation Army Property	2/27/91	03:25- 03:40	53.6	54.0	60.0	
Francisca N of Gertruda	3/7/91	00:09- 00:24	55.7	58.4	62.1	63.6
	4/24/91	00:54- 01:09	55.5	57.3	61.9	66.8
	4/26/91	01:54- 02:09	57.0	58.8	63.4	67.8
	4/28/91	10:08- 10:23	56.1	62.7	62.5	66.2
Front of 518 N Elena	3/7/91	00:43- 00:58	54.9	56.6	61.3	66.8
	3/8/91	03:33- 03:48	53.3	54.0	59.7	65.8
Front of Charley Brown	3/7/91	01:12- 01:27	53.7	56.3	60.1	65.1
S Cnr Beryl & Broadway	3/7/91	01:37- 01:52	53.6	60.2	60.0	64.9
Front of 508 Francisca	3/8/91	00:48- 01:03	53.5	55.1	59.9	61.2
Front of 534 Francisca	3/8/91	01:13- 01:28	53.5	56.2	59.9	65.5
Front of 522 Gertruda	3/8/91	01:34- 01:49	50.4	52.6	56.8	61.6
N Cnr Broadway & Carnelian	3/8/91	01:56- 02:11	48.9	51.5	55.3	59.5
Front of 524 Guadalupe	3/8/91	02:20- 02:35	41.8	44.9	48.2	53.6
	4/24/91	01:19- 01:34	42.2	46.4	48.6	52.7
	4/28/91	09:37- 09:52	42.7	53.6	49.1	55.9
E Cnr Beryl & Juanita	3/8/91	02:46- 03:01	37.0	48.6	43.4	52.8
E Cnr Agate & Irena	3/8/91	03:11- 03:26	37.5	45.6	43.9	56.5
E Cnr Catalina & Broadway	4/24/91	01:48- 02:03	56.7	59.7	63.1	68.3
	4/26/91	02:17- 02:32	58.8	61.0	65.2	71.1
Bank Parking Lot on Catalina	5/2/91	23:00- 23:15	55.3	56.9	61.7	68.0
Front of 307 Ave G (PCH Car Wash)	4/23/91	16:52- 17:07	57.9	62.7	56.7	
Front of 233 Ave G (PCH Car Wash)	4/23/91	17:19- 17:34	64.2	68.8	59.7	
Port Royal Parking Lot 25' from Triton Oil	4/23/91	19:22- 19:37	59.5	61.2	67.6	62.5
E side Francisca 10' from Oil	4/23/91	20:10- 20:25	76.2	76.5	82.6	70.6
Front of 514 Faye opp Prospect Oil	4/23/91	20:46- 21:01	46.5	50.4	52.9	
E Side Lucia behind Prospect Oil Facility	4/23/91	21:28- 21:43	52.7	54.8	59.1	
E Side Prospect opp Oil Facility	4/24/91	00:24- 00:39	54.2	59.1	61.4	
Alta Vista Park 50' from Oil Facility	4/23/91	22:08- 22:23	55.3	57.7	63.7	
N Side Serpentine abv Park Oil Facility	4/23/91	22:32- 22:47	43.6	55.0	50.0	
NW Cnr Car Wash (Torrance & Irena)	4/28/91	08:31- 08:46	68.3	69.0	65.2	
Res PL at rear of Park lot W of Car Wash	4/28/91	09:00- 09:15	56.4	58.3	53.2	
W Side Irena @ Opal opp Wash	5/6/91	11:18- 11:33	66.2	68.3	63.1	
Dominguez Park W of Pistol Range	5/6/91	09:14- 09:29	53.0	72.3	70.0	
SCE Easement NE of Pisto Range	5/6/91	10:00- 10:15	52.6	63.2	59.0	

As most of the readings were taken at locations representative of actual or potential "worst case" noise impacts on residential or recreational uses, the measurements can be used as initial investigations for assessment of noise ordinance compliance.

4.2.16 Discussion of Study and Analysis Conclusions

The following presents a description of the results of the measurement and analysis, with appropriate conclusions and specific measures recommended to reduce the potential impacts of the various stationary noise sources that were the subject of the study.

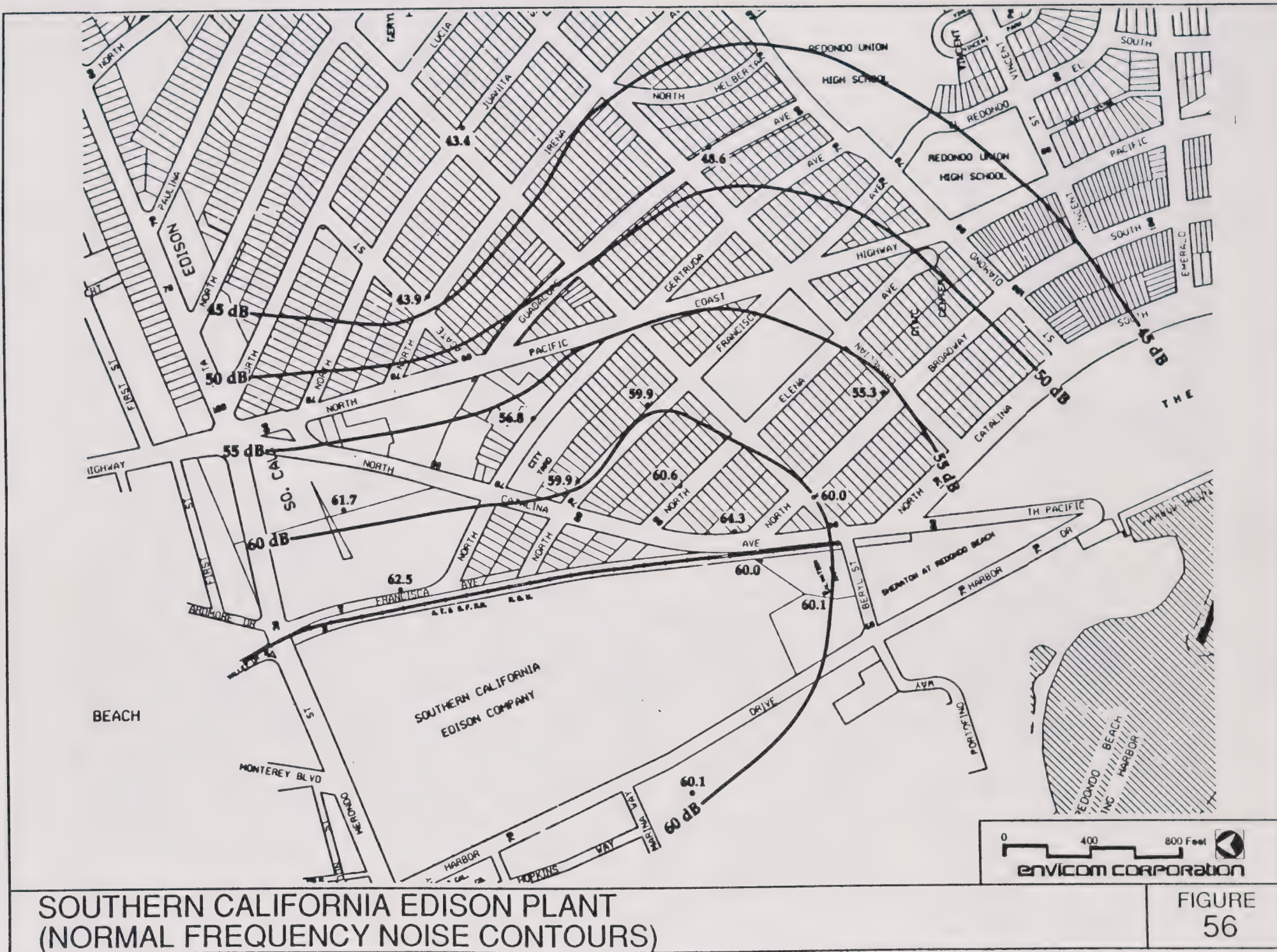
Southern California Edison Company Generating Plant Noise: From the data presented in Table 52, and from the Ldn (normal frequency) contours plotted from the data (Figure 56), it can be seen that Southern California Edison Company Generating Plant produces a 55 dB noise zone that approximately encompasses the area north of Carnelian Street, west of Pacific Coast Highway and west of North Gertruda Avenue. Similarly, the Southern California Edison Company Generating Plant 60 dB zone is approximately contained within the area north of Beryl Street and west of Francisca Avenue. Based on the measurements, the 65 dB zone is fully within the boundaries of the Southern California Edison Company Generating Plant.

At locations within approximately 1,000 feet of the Southern California Edison Company Generating Plant, the overall, PC-weighted (low frequency) noise levels are 4-6 dB higher than the A-weighted levels (Figure 57). At locations on the east side of Pacific Coast Highway, the differential increases up to approximately 13 dB, owing to the lower atmospheric attenuation and reduced effect of shielding for the longer wavelength, low frequency sounds.

In the area immediately to the east of the Southern California Edison Company Generating Plant, PC-weighted (low frequency) noise levels were measured in the range 65-71 dB, which straddles Kelley's perception threshold, but are below the annoyance and unacceptable thresholds.

To better understand the nature of the low frequency noise exposures in the community and noise generation by the Southern California Edison Company Generating Plant, the narrow band acoustic data samples were reviewed in detail and a special measurement was made of the 13-octave sound level vs. time at the most exposed position, the corner of Catalina Avenue and Broadway. This location is approximately 750 feet distant from and in sight line of SCE boilers #7 and #8.

The analysis showed numerous discrete frequency and narrow band spectral peaks, some of which were repeated throughout the measurements and some of which varied among positions and measurement times.





SOUTHERN CALIFORNIA EDISON PLANT
(LOW FREQUENCY NOISE CONTOURS)

The hypothesis at this time is that the steady discrete frequency signals are from mechanical sources, such as the generator rotation (30 Hz), power line frequency (60 Hz), magnetostrictive noise (120 Hz), the main fan rotation (15 Hz) and the main fan blade passage (149.25 Hz). Narrow band noises in the range 6-60 Hz, which tend to fluctuate in frequency and level, are probably products of the combustion process. Spectral details would therefore be sensitive to load, air temperature and possibly other considerations.

The time average spectrum may be compared to the narrow band spectrum measured at approximately the same time. This was done by converting the narrow band spectrum to a 1/3-octave spectrum by simply summing the energy from all spectral lines within each 1/3-octave. Note that the discrete frequency peaks in the narrow band spectrum are much less pronounced in the 1/3-octave spectrum but that overall levels are easier to assess on the 1/3-octave spectrum. Note also that the levels computed from the narrow band spectrum agree well with the measured 1/3-octave band levels, generally falling between the maximum and minimum.

Time lines for the overall, A-weighted and PC-weighted noise levels show that between vehicles (the 5-10 dB "bumps" on the A-weighted plots) the noise level is very steady. It is interesting to note that while the levels in the individual 1/3-octave bands were observed to fluctuate over a 9-18 dB spread, the overall and PC-weighted levels were steady within 41.5 dB. If the vehicles and brief peak at 57 seconds are eliminated, the spread is less than 3 dB. This is a remarkably constant level for sound with quasi-random spectral components extending down as low as 6 Hz.

Comparison of the measured and calculated 1/3-octave spectra to the aural and structural response criteria are shown on the appended color chart. At the distance of 750 feet, noise levels exceed the window vibration criterion at frequencies up to 31.5 Hz and exceed the wall vibration criterion for frequencies between 5 and 10 Hz. Low frequency noise is expected to be audible for frequencies 25 Hz and higher. The average noise level just barely exceeds the wall vibration criterion, but the maximum 1/3-octave levels exceed the criterion by up to 8 dB (brief peak at 57 seconds with strong component at 6.3 Hz).

It may be noted from the 1/3-octave spectrum plots that for the SCE noise, the PC-weighted low frequency noise level is a very nearly equal to the 1/3-octave band levels in the 5-8 Hz range which determine exceedance of the vibration excitation criteria.

The community noise survey results may therefore be analyzed with reasonable accuracy by comparing the measured PC-weighted level against the 6.3 Hz criteria, 55 dB for windows, 66 dB for walls.

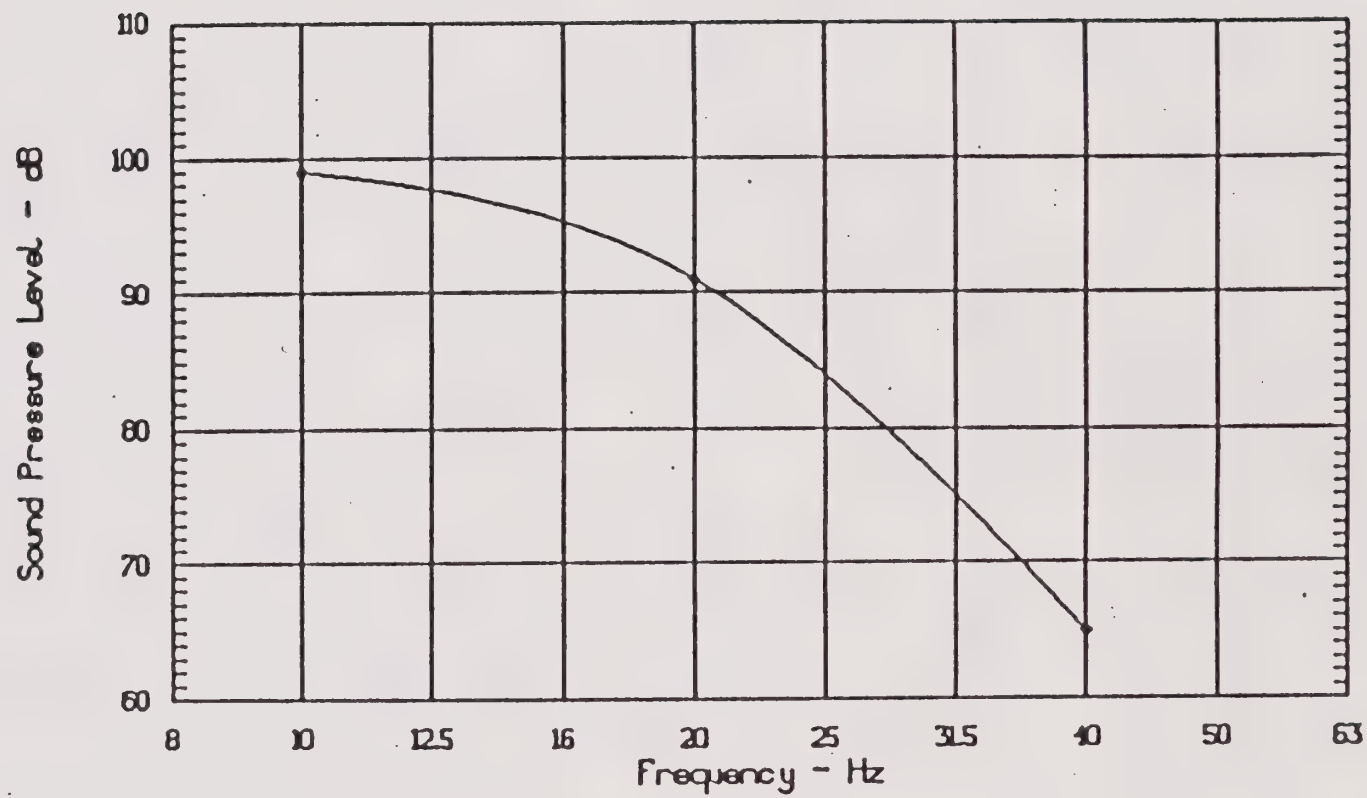
On the basis of an expected 6 dB or greater loss vs. distance doubling (inverse distance squared wave-spreading), one would expect locations at distance greater than approximately 980 feet to be free of perceptible wall vibrations and locations at distance greater than 3,500 feet to be free of window vibration. Actual measurements, taken at locations 2400-2800 feet from the Southern California Edison Company Generating Plant indicated that, depending upon direction (because of varying shielding conditions), this latter distance is the more appropriate, reflected by the PC 55 dB noise contour.

The predicted overall effect of the low frequency noise may be assessed by comparing the measured levels to Kelley's and Dawson's criteria. Recalling that Kelley established PC 68 dB as a perception threshold and PC 75 dB as an annoyance threshold, the indication from the measurements is that within approximately 750 feet of the boilers, low frequency noise would be perceptible inside residences, but that at none of the measured sites would the noise be assessed as objectionable.

When Dawson's 1/3-octave criterion curve is interpolated to 149 Hz (a dominant component of Southern California Edison Company Generating Plant noise - actually 149.25 Hz), the criterion is approximately 53 dB. Review of the 1/3-octave data plots indicates that levels are below Dawson's criterion curve except at 63 Hz at locations directly adjacent to the Southern California Edison Company Plant and at 160 Hz (the band encompassing 149 Hz) within approximately 1,000 feet of the boilers. However, the 149.25 Hz noise is a distinct tone which is audible to the west of the facility (in the harbor area) during otherwise-quiet early morning hours.

An extensive investigation into the effects of low frequency noise on sleep interference revealed only one research paper: "Effects of infra and low frequency sound on sleep stages" by Kzuhide Yamazaki and Yasuo Tokita in *Proceedings of Inter-Noise 84*. Sleeping test subjects (young male students) were exposed to sounds of frequency 10, 20 and 40 Hz and levels ranging from 55 to 104 dB. Sleep stages (I, II, III, REM and Wake) were determined before and after exposure using EEG, EMG and EOG monitoring. The results matrix for their study is duplicated below. Based on the results, they estimated the threshold for awakening from Stage I sleep as a function of frequency as shown (Figure 58).

Review of the measured 1/3-octave data demonstrates that few or none of the measurements indicated levels above these thresholds outdoors. It is therefore unlikely that low frequency noise from the Southern California Edison Company Generating Plant is directly responsible for sleep interference problems. The noise could be indirectly responsible if rattling noises are produced by low-frequency induced window or wall vibrations.



YAMAZAKI & TOKITA LOW FREQUENCY NOISE SLEEP INTERFERENCE CURVE

Structural damage for sound levels in the ranges measured in this study are quite unlikely. The following is quoted from H. Hubbard "Noise Induced House Vibrations and Human Perception" in Noise Control Engineering Journal, Volume 19/Number 2, 1982:

"Damage Experience. Very little if any damage to elements of the structure is expected except at extreme values of the input noise level. Experience for blasting, explosions and for sonic booms suggest that damage to houses may occur at peak acceleration values between about 0.3 and 3.0 g in the frequency range 10 to 100 Hz, respectively...."

Vibration levels measured on walls, doors and windows at 515 Elena Street and on the window of the Los Angeles County Beaches Department warehouse (located at North Catalina Avenue & Broadway) were all below 0.1 g, well below the values indicated by Hubbard as having potential for structural damage.

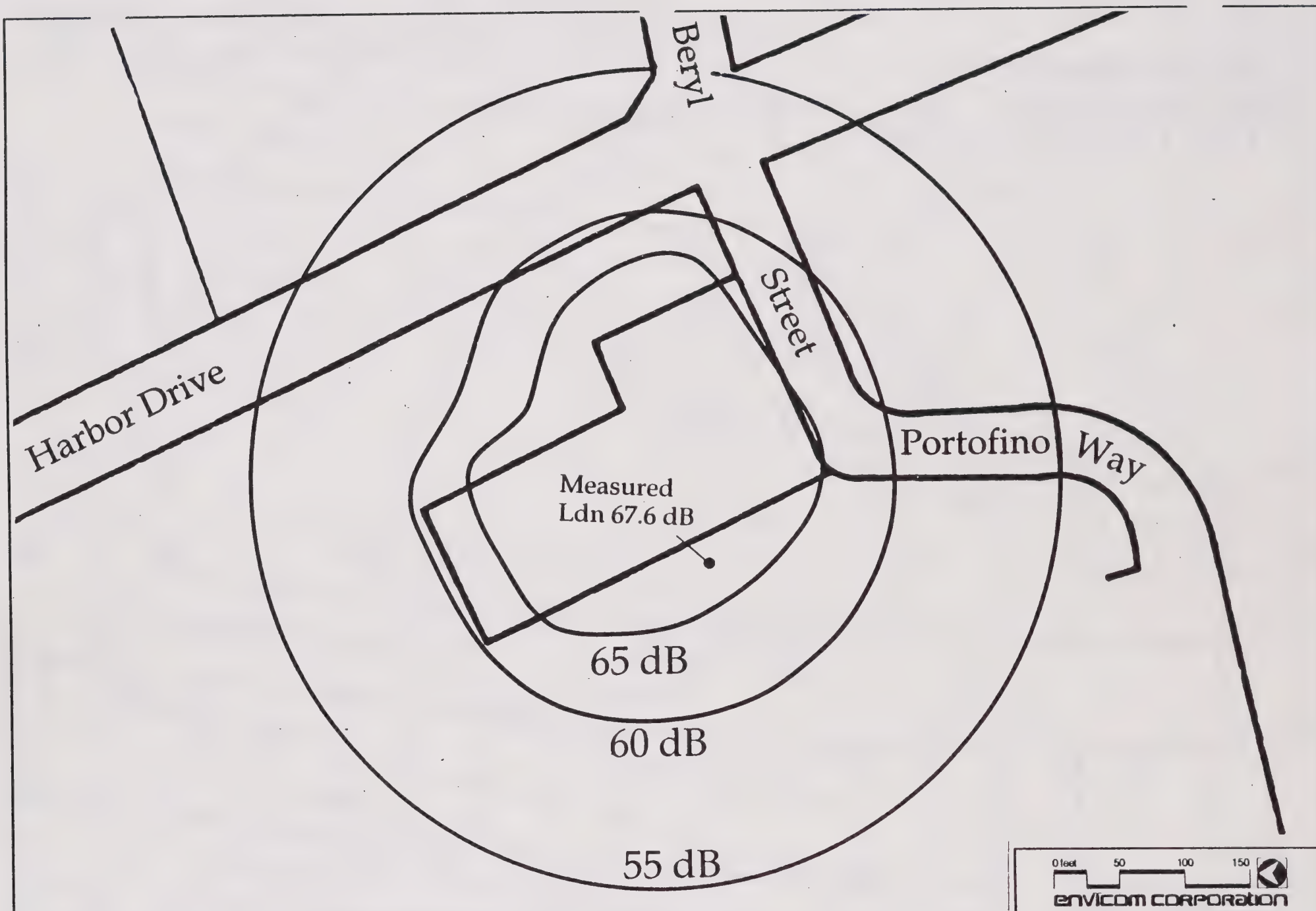
Petroleum Facilities: Although the noise levels from these four facilities are typically below 55 dB at the nearest noise sensitive uses, their impact on the environment could be reduced by the elimination of a number of distinctive characteristics (Figure 59), (Figure 60), (Figure 61), (Figure 62). As has been indicated previously, these include:

- Screeching bearings
- Clunks from loose couplings or linkages on oil pumps
- Low frequency buzz from exposed compressors
- Hum from pumps and motors

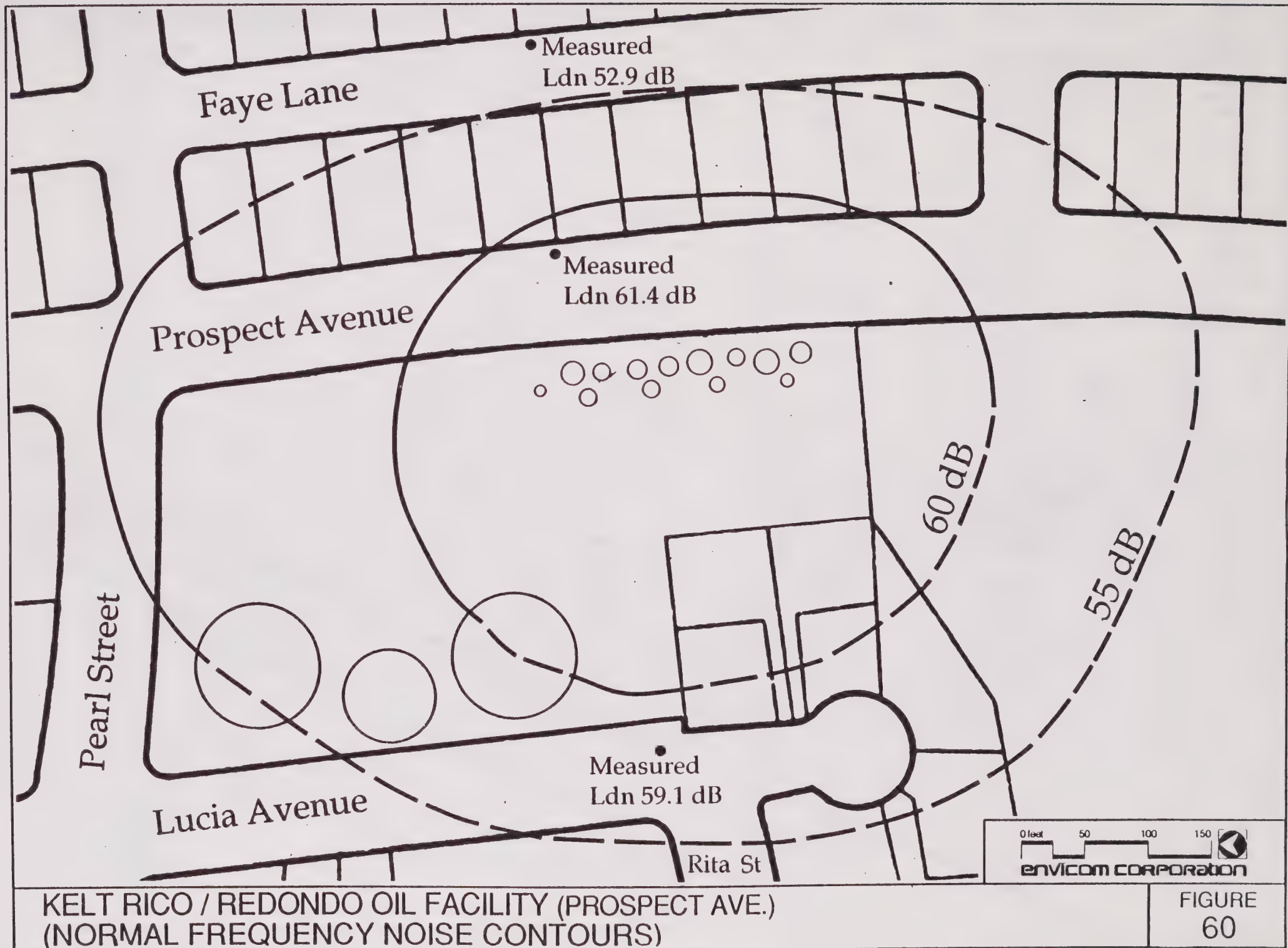
Improved equipment maintenance and/or addition of housings or barriers would be the most applicable and effective noise reduction strategies for these facilities.

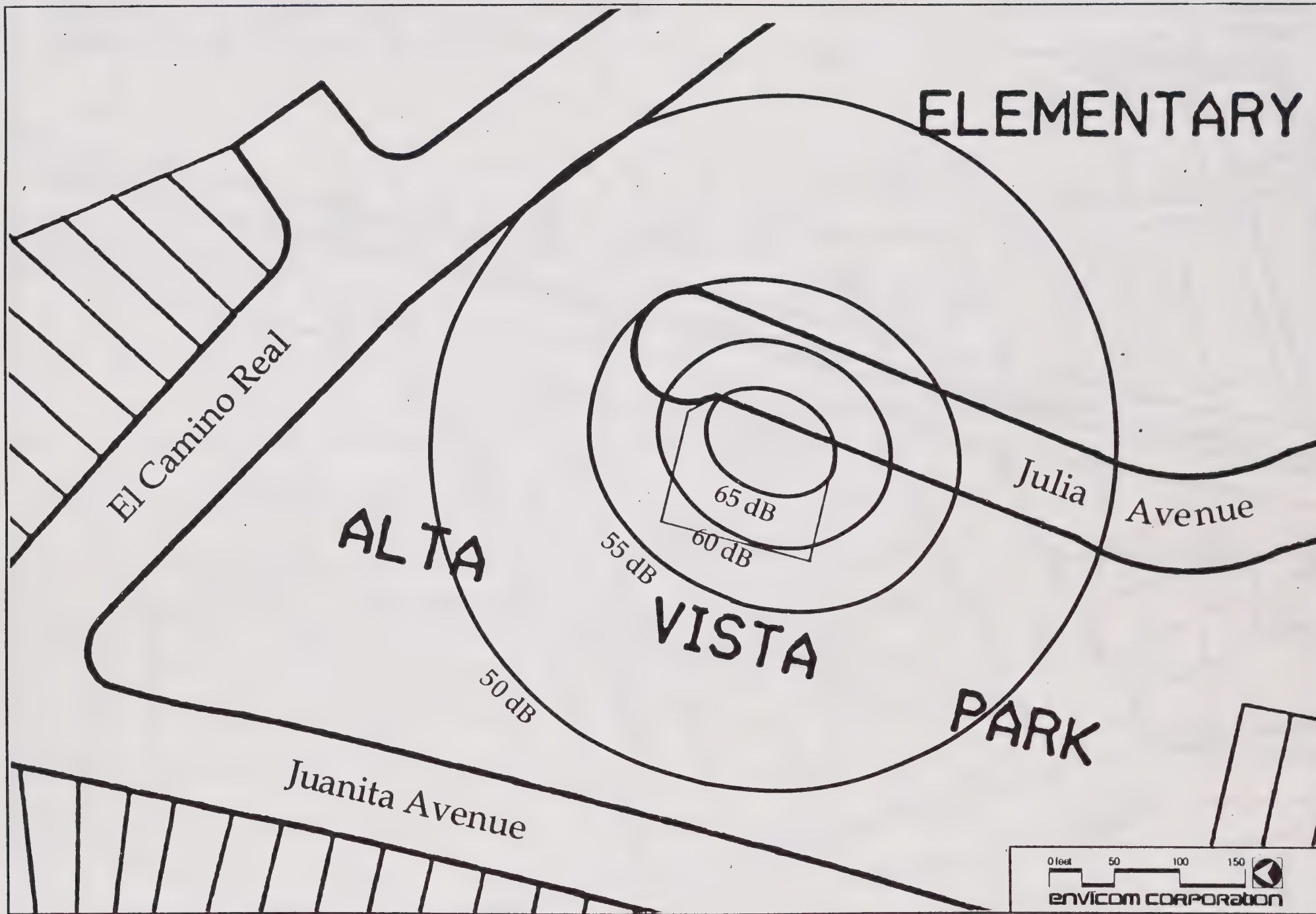
Car Washes: The two car washes investigated (the Marina South Car Wash, located adjacent to Pacific Coast Highway and the Redondo Car Wash, located adjacent to Torrance Boulevard) are located adjacent to major roadways and operate during daytime hours only.

At the Marina South Car Wash (Figure 63), residences are located across Avenue G in a location partially shielded from the major noise sources by the car wash structure. Other residences are located on the opposite side of Pacific Coast Highway. At both these residential locations, the major noise sources are audible during lull periods in traffic, but the noise impact on the overall acoustical environment is small.



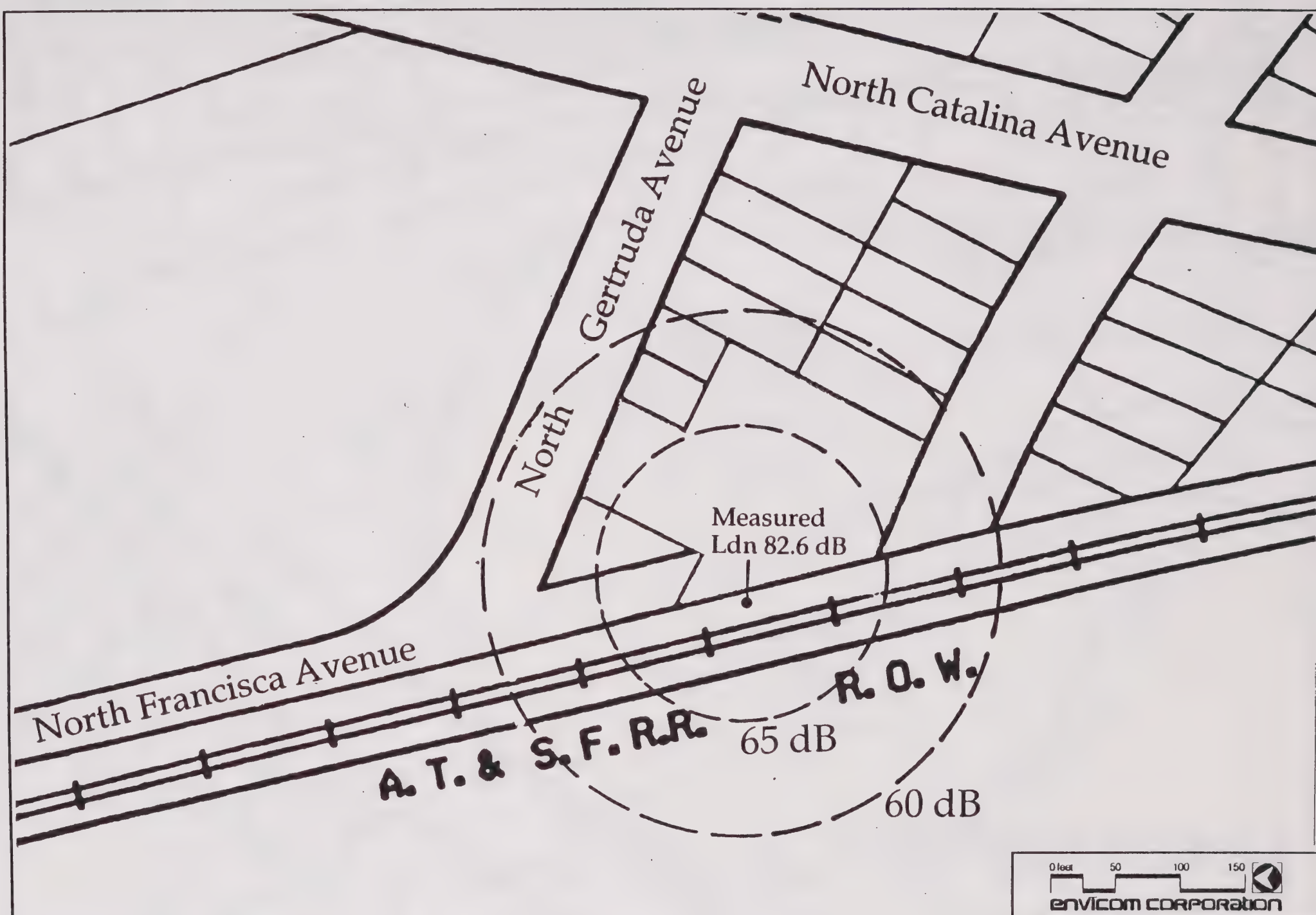
TRITON (HARBOR) OIL FACILITY (NORMAL FREQUENCY NOISE CONTOURS)





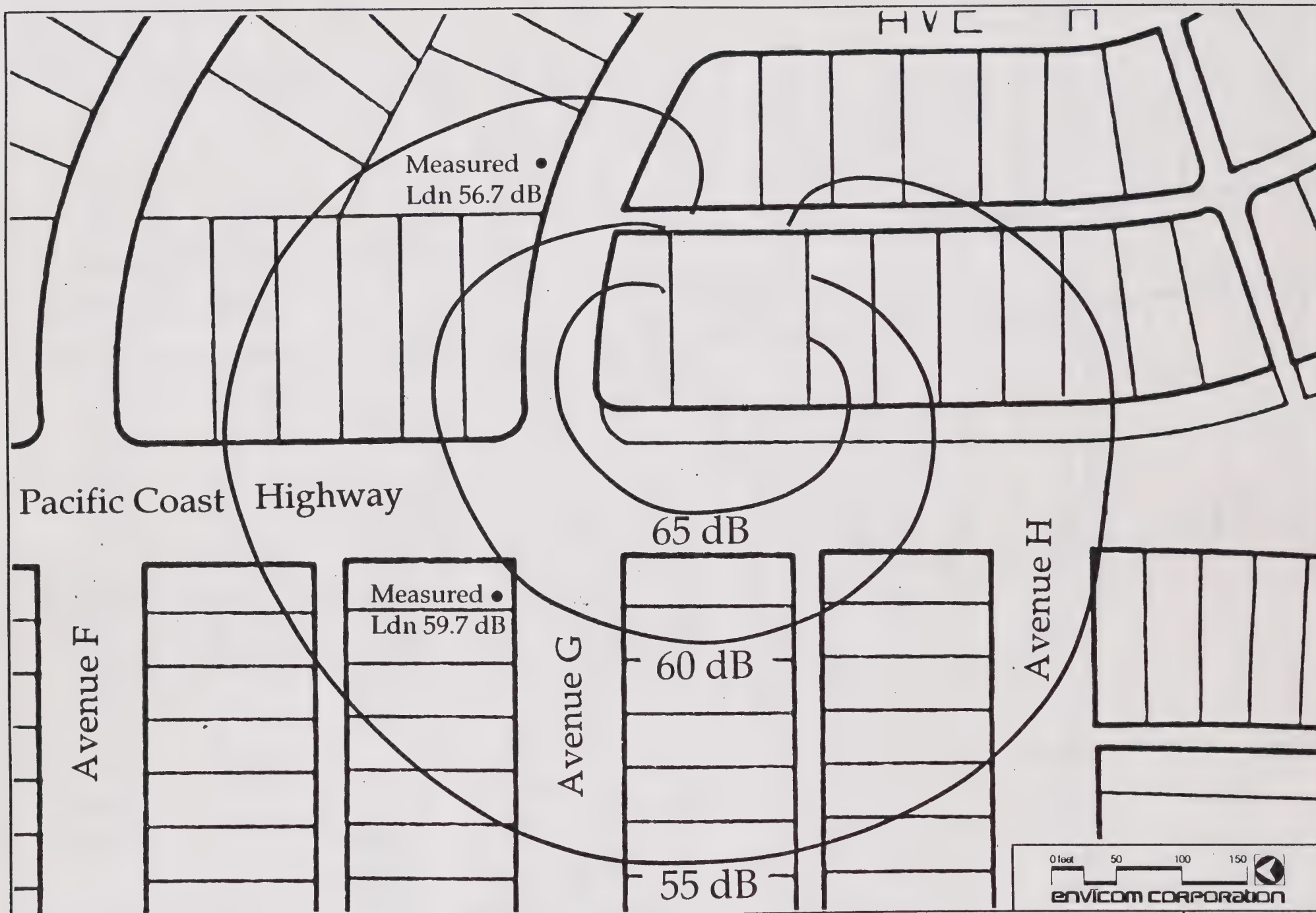
KELT RICO / REDONDO OIL FACILITY (ALTA VISTA PARK)
(NORMAL FREQUENCY NOISE CONTOURS)

FIGURE
61



WORLD WIDE PACIFIC OIL FACILITY
(NORMAL FREQUENCY NOISE CONTOURS)

FIGURE
62



MARINA SOUTH CAR WASH (NORMAL FREQUENCY NOISE CONTOURS)

At the Redondo Car Wash (**Figure 64**), existing older residences are located immediately behind the facility, across a block wall from the vacuum blowers. Noise levels resulting from these blowers are approximately 65 dB, well in excess of the shielded traffic noise.

At the location of residences on the south side of Torrance Boulevard, to the southeast of the car wash, noise levels from the main wash line will be 65-66 dB, based on measurements of 68 dB at an intermediate distance. This is 3-5 dB above the overall (ambient) noise level, and is a clearly audible element in the environment.

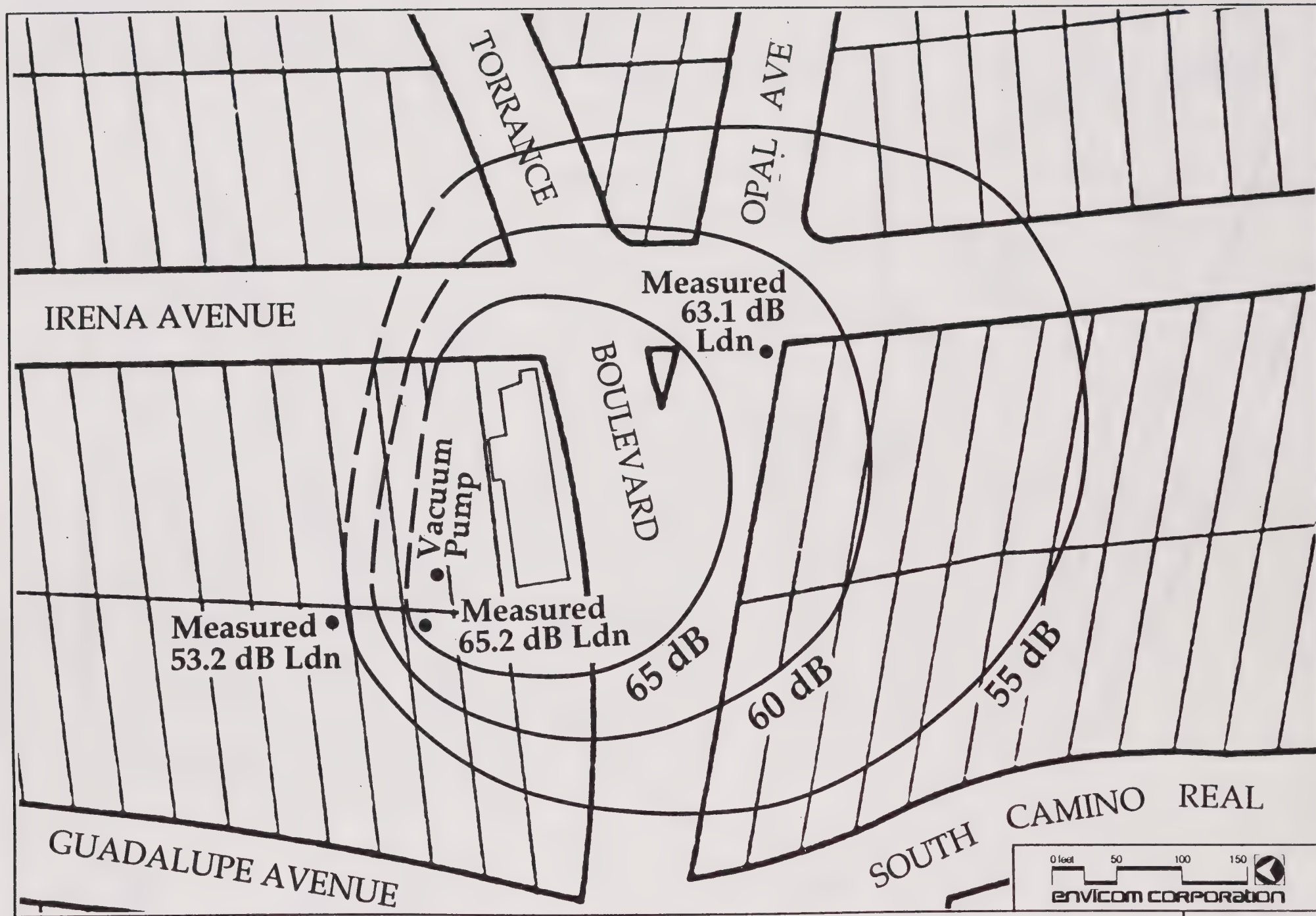
The sources of noise which could be treated to reduce noise are the vacuum blowers and the dryer blowers. Both of these could be reduced with inlet and discharge silencers. In addition, a sound absorptive barrier could be constructed on the front side of the wash line and around the vacuum blowers.

Police Firing Range: At a distance of 150 feet and above the range, maximum individual pistol shots (Fast SLM detector) were in the range 88-94 dB depending upon shooter location. The absolute peak sound pressure level was measured as 117 dB. At 350 feet, the levels were lower by 10-12 dB, consistent with the increased distance and greater shielding. With intense range usage, one expects approximately 1,800 shots in a worst case hour, resulting in L_{eq1hr} 83 dB at the westerly measurement position and 72 dB to the northeast. For more average conditions, this number of shots would be spread over a four hour period, with resultant 6 dB reduction in hourly average levels. The L_{dn} would be 62 dB at the westerly position, 51 dB to the northeast (**Figure 65**).

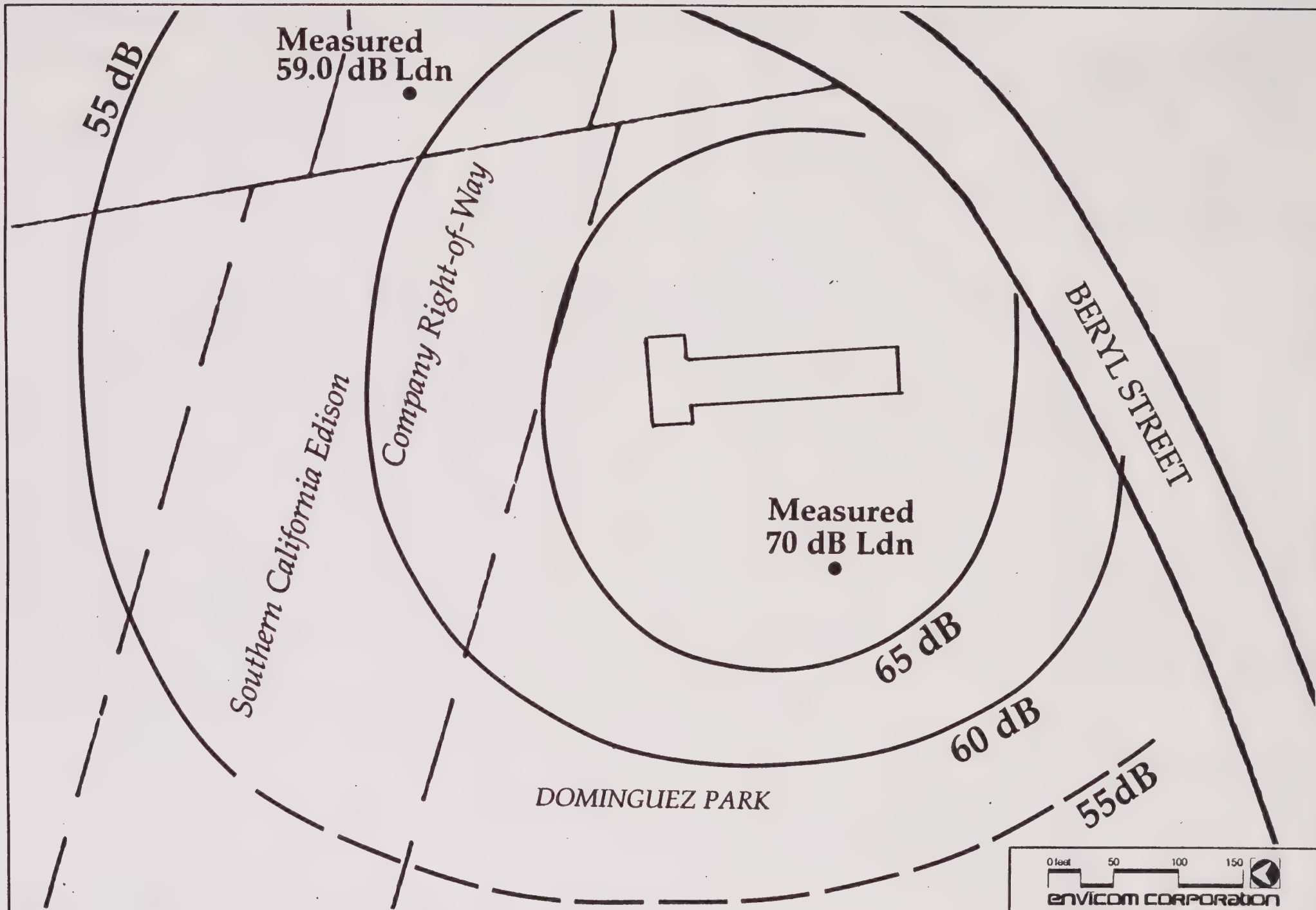
It must be realized that, because of the high crest factor (peak to average ratio) for the pistol shot noise, individual shots will be clearly audible at distances greater than suggested by the contours. Significant noise reduction could be achieved at the range through the installation of sound absorbing baffles between the wood slats of the top of the range, or through the construction of a roof over the facility. The construction of a new police facility is presently under consideration by the City of Redondo Beach; during future planning for this facility, it would be appropriate to consider the potential for relocating the existing fire range to the new facility (possibly below ground, to reduce any potential noise impacts).

4.2.17 Goals, Objectives, and Policies

The following presents the various goals, objectives, and policies relative to both overall (ambient) and stationary (fixed-source) source noise conditions and impacts in the City of Redondo Beach.



REDONDO CAR WASH (NORMAL FREQUENCY NOISE CONTOURS)



POLICE FIRING RANGE (DOMINGUEZ PARK)
(NORMAL FREQUENCY NOISE CONTOURS)

FIGURE
65

Goal *It shall be the goal of the City of Redondo Beach to:*

10A Ensure that residents, employees, and visitors in the City of Redondo Beach are protected from the adverse human health and environmental impacts of excessive noise levels created by stationary and overall (ambient) noise sources and conditions, and take all necessary and appropriate action to avoid or mitigate the detrimental affects of such excessive noise level exposure impacts on the community.

Issue **NOISE ORDINANCES, REGULATIONS, AND GUIDELINES**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.1 Adopt and enforce appropriate local noise ordinances, regulations, and guidelines, in order to effectively control both overall (ambient) and stationary noise conditions and impacts that may occur in the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.1.1 Adopt and enforce a revised version of the City of Redondo Beach Noise Regulation (Chapter 24, Title 4 of the City of Redondo Beach Municipal Code) that effectively responds to and regulates (to the extent feasible) the range of overall (ambient) and stationary noise conditions that are expected to occur in the City.

10.1.2 Ensure that any and all local noise ordinances, regulations, and guidelines are appropriate for their intended purpose, are consistent with existing technical standards, are legally adequate, and are enforced according to their terms.

Issue **NOISE LEVEL AND NOISE IMPACT INFORMATION MONITORING AND UPDATING**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.2 Maintain base line information regarding the overall (ambient) and stationary source related noise environment of the community on an ongoing basis.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.2.1 Monitor and update available data as required (but not less than every five years) regarding the community's existing and projected overall (ambient) and stationary noise levels.

10.2.2 Employ or encourage the use of technological or mechanical advances in overall and stationary source noise impact mitigation, as feasible.

Goal *It shall be the goal of the City of Redondo Beach to:*

10B Ensure that residents, employees, and visitors in the City of Redondo Beach are protected from the adverse human health and environmental impacts of excessive overall (ambient) noise levels, and take all necessary and appropriate action to avoid or mitigate the detrimental affects of such excessive noise level exposure impacts on the community.

Issue **OVERALL (AMBIENT) NOISE IMPACTS ON THE COMMUNITY**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.3 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, and visitors of the community.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.3.1 Require new noise-sensitive land uses (including health care facilities and libraries) in areas exposed to existing or projected noise levels exceeding an Ldn of 60 dB(A) exterior, to incorporate effective mitigation measures to reduce interior noise to no more than 45 dB(A).

10.3.2 Implement requirements under Title 24 of the State Building Code to ensure that interior noise levels attributable to exterior sources shall not exceed an Ldn of 45 dB(A) in any habitable room within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than detached single-family units.

10.3.3 Develop standards to provide adequate sound insulation for the construction of single-family homes in areas potentially exposed to overall (ambient) noise levels exceeding an Ldn of 60 dB(A). Such insulation standards would be applied unless an acoustical analysis is conducted that shows that overall (ambient) noise levels do not exceed an Ldn of 60 dB(A).

- 10.3.4 Prohibit the development of new industrial, commercial, or related land uses or the expansion of existing land uses when it can be demonstrated that such new or expanded land uses would be directly responsible for causing overall (ambient) noise levels to exceed an Ldn of 65 dB(A) exterior upon areas containing housing, schools, health care facilities, or other "noise-sensitive" land uses (as determined by the City of Redondo Beach).
- 10.3.5 Encourage "noise sensitive" land uses, including schools, libraries, health care facilities, and residential uses, to incorporate fences, walls, landscaping, and/or other noise buffers and barriers, where appropriate and feasible to do so.

Issue **TRAFFIC-RELATED NOISE IMPACTS**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 10.4 Minimize the adverse impacts of traffic-generated noise on residential and other "noise sensitive" uses.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 10.4.1 Require that all new non-residential development design and configure on-site ingress and egress points to divert traffic (and its resultant noise) away from "noise sensitive" land uses to the greatest degree practicable, and consistent with applicable safety and planning considerations.
- 10.4.2 Require that any municipal vehicles or noise-generating mechanical equipment purchased or used by the City of Redondo Beach comply with noise performance standards to the extent feasible.
- 10.4.3 Encourage local and regional public transit providers to ensure that the equipment they use and operate does not generate excessive noise impacts on the community.
- 10.4.4 Provide for and encourage the development of alternate transportation modes such as bicycle paths and pedestrian walkways to minimize the number of noise generating automobile trips.
- 10.4.5 Attempt to reduce traffic generated noise levels in the community through the reduction of vehicular traffic by encouraging both the public and the private sector to implement or participate with others, in implementing transportation demand management (TDM) programs as discussed in Policies 5.4.1 and 5.4.2 of the Transportation

and Circulation element, including but not limited to, consideration of incentives for car pooling, van pools, and the use of public transit.

Issue **NOISE IMPACT ENCROACHMENT OF COMMERCIAL AND INDUSTRIAL LAND USES**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.5 Minimize noise spillover or encroachment from commercial and industrial land uses into adjoining residential neighborhoods or "noise-sensitive" uses.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.5.1 Require that loading and shipping facilities for commercial and industrial land uses abutting residential parcels be located and designed in a manner to minimize the potential noise impacts upon these parcels to the greatest degree practicable.

10.5.2 Require that all parking areas for commercial and industrial land uses abutting residential areas be buffered and shielded by walls, fences, or adequate landscaping.

10.5.3 Require that parking structures serving commercial or industrial land uses be designed to minimize the potential noise impacts of vehicles using these facilities both on site and on adjacent land uses or properties. The design measures used may include: 1) the use of materials which mitigate sound transmission; or 2) the configuration of interior spaces to minimize sound amplification and transmission.

10.5.4 Adopt an ordinance to control the use of leaf blowers, parking lot sweepers, or other high-noise generating commercial/industrial equipment to reduce the potentially adverse noise impacts of such equipment upon adjacent residential areas.

10.5.5 Require that the hours of truck deliveries to commercial or industrial land uses abutting residential uses be limited (within a reasonable period) unless there is no feasible alternative or there are overriding transportation benefits by scheduling deliveries at other hours, to the extent consistent with the adopted County of Los Angeles Congestion Management Plan (CMP), or other applicable County, State, or Federal requirements relative to this subject.

Issue **NOISE IMPACTS OF MIXED-USE STRUCTURES**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.6 Minimize the potentially adverse noise impacts associated with the development of mixed-use structures where residential units are located above ground floor commercial uses (where permitted).

Policies *It shall be the policy of the City of Redondo Beach to:*

10.6.1 Ensure that mixed use buildings are constructed to prevent adverse noise transmission between differing uses or tenants located in the same structures.

10.6.2 Require that mixed-use structures designed for concurrent commercial and residential land uses minimize to the greatest degree practicable (through design and construction techniques or other such technological means as may become available) the transfer or transmission of noise and vibration from the commercial land use to the residential land use.

Issue **CONSTRUCTION NOISE IMPACTS**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.7 Minimize the impacts of construction noise on adjacent uses.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.7.1 Ensure that the prohibitions relative to legal hours of operation for construction activities contained within the existing City of Redondo Noise Ordinance and/or any future/revised Noise Ordinance be adhered to and enforced.

10.7.2 Require that construction activities adjacent to residential land uses and dwelling units be regulated, as necessary, to prevent the generation of adverse and/or excessive noise impacts.

10.7.3 Require that construction activities employ feasible and practical techniques and practices which minimize the generation of adverse and/or excessive noise impacts on adjacent land uses.

Issue **NOISE IMPACTS/ENCROACHMENT WITHIN MULTI-OCCUPANT STRUCTURES**

Objective *It shall be the objective of the City of Redondo Beach to :*

10.8 Ensure that buildings are constructed soundly to prevent adverse noise transmission between differing uses or tenants located in the same commercial structure and individual dwelling units in multi-family residential structures.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.8.1 Enforce the applicable provisions of the Uniform Building Code (UBC) and City of Redondo Beach Municipal Code which prevent the transmission of excessive and unacceptable noise levels between individual tenants and businesses in commercial structures and between individual dwelling units in multi-family residential structures.

Issue **NOISE IMPACTS OF ENTERTAINMENT AND RESTAURANT/BAR LAND USES**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.9 Minimize the generation of excessive noise level impacts and/or spillover from entertainment and restaurant/bar establishments into adjacent residential or "noise sensitive" land uses.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.9.1 Develop local ordinance requirements and/or mandate construction mitigation measures which prohibit noise levels emanating from any entertainment or restaurant/bar use from being audible at a distance of fifty (50) linear feet from the property line of the structure in which it is being conducted or at the property line of any dwelling unit (whichever is more restrictive).

10.9.2 Require that entertainment and restaurant/bar uses take appropriate steps to control the activities of their patrons on-site, as well as within a reasonable and legally justified distance or proximity, to minimize potential noise-related impacts on adjacent residential neighborhoods.

10.9.3 Discourage the development of new nightclubs, discotheques, and other high noise-generating entertainment uses adjacent to any residential neighborhoods, residential dwelling units, schools, health

care facilities, or other “noise sensitive” land uses, unless it can be demonstrated that adequate measures can be installed and employed to adequately mitigate the potential impacts of on-site operations and/or off-site customer access and activities of these establishments upon these areas.

- 10.9.4 Require that all new nightclubs, discotheques, and other high noise-generating entertainment uses be subject to a conditional use permit, in order to mitigate potential adverse noise impacts.

Issue **NOISE IMPACTS OF RAILROAD USES**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 10.10 Minimize the noise effect of railroad transit (freight and passenger) on residential uses and other sensitive land uses.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 10.10.1 Work with railroad operators using facilities that cross through the City of Redondo Beach to properly maintain lines and establish operational restrictions during the early morning and late evening hours to reduce adverse noise impacts in residential areas and other noise sensitive areas.

- 10.10.2 Work with railroad operators using facilities that cross through the City of Redondo Beach to install noise mitigation features where operations impact existing adjacent residential or other noise-sensitive uses.

Goal *It shall be the goal of the City of Redondo Beach to:*

- 10C Ensure that residents, employees, and visitors in the City of Redondo Beach are protected from the adverse human health and environmental impacts of excessive noise levels created by stationary noise sources and conditions, and take all necessary and appropriate action to avoid or mitigate the detrimental affects of such excessive noise level exposure impacts on the community.

Issue **ANALYSIS AND MITIGATION OF CITY-WIDE STATIONARY
(FIXED-SOURCE) NOISE IMPACTS**

Objective *It shall be the objective of the City of Redondo Beach to:*

10.11 Ensure the conduct of a proper, modern, and site-specific acoustical analysis of any local structure determined (by the City of Redondo Beach) to be a potential generator of significant stationary noise impacts, and ensure that the results or mitigation measures recommended within such analyses are implemented, as feasible.

Policies *It shall be the policy of the City of Redondo Beach to:*

10.11.1 Require an acoustical analyses for any new or expanded land uses determined (by the City of Redondo Beach) to be potential major stationary noise sources. Such studies will be completed and reviewed, with recommended mitigation measures successfully implemented and tested, prior to the issuance of a Certificate of Occupancy for said land use.

(Such studies would be expected to be funded by the respective developer or builder and conducted by the City of Redondo Beach) similar to existing environmental review) to ensure independence and objectivity.)

10.11.2 Encourage major stationary noise generating sources throughout the City of Redondo Beach to voluntarily install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable (as specifically recommended within the May, 1991 City of Redondo Beach Stationary Source Noise and Vibration Measurement and Analysis Report, conducted by Walker, Celano & Associates or any future technical acoustical analyses commissioned by or conducted by the City of Redondo Beach).

10.11.3 Require that major stationary noise generating sources throughout the City of Redondo Beach install additional noise buffering or reduction mechanisms within their facilities to reduce noise generation levels to the lowest extent practicable (as specifically recommended within the May, 1991 City of Redondo Beach Stationary Source Noise and Vibration Measurement and Analysis Report, conducted by Walker, Celano & Associates or any future technical acoustical analyses commissioned by or conducted by the City of Redondo Beach) prior to the renewal of Conditional Use Permits or prior to the approval and/or issuance of new Conditional Use Permits for said facilities.

Issue **STATIONARY NOISE IMPACTS OF SOUTHERN CALIFORNIA
EDISON COMPANY PLANT**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 10.12 Continue to monitor, assess, and mitigate, whenever and however possible, the existing and potential future stationary noise impacts generated by the regional electricity generation plant, owned and operated by the Southern California Edison Company, and located adjacent to North Catalina Avenue in South Redondo Beach.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 10.12.1 Continue to work proactively (on a formal basis) with the Southern California Edison Company to lessen, mitigate, and eliminate the impacts of normal frequency noise and low frequency noise generated by its electricity generation plant on the community.

(These efforts would be expected to include the installation of additional noise buffering or reduction elements in and around the plant and the intensification of maintenance efforts within the plant to lessen said impacts.)

- 10.12.2 Adopt appropriate provisions within the City's Noise Ordinance (Chapter 24, Title 4 of the Redondo Beach Municipal Code) to address the impacts of low frequency noise from stationary noise sources.

Issue **STATIONARY NOISE IMPACTS OF POLICE FIRING RANGE**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 10.13 Continue to monitor, assess, and lessen, whenever and however possible, the existing and potential future stationary noise impacts generated by the Police Firing Range, located adjacent to Dominguez Park.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 10.13.1 Work closely with the City of Redondo Beach Police Department to conduct an impact study weighing the advantages and disadvantages of any modifications to the Police Firing Range prior to the implementation of any noise reduction measures such as baffles or roofing.

- 10.13.2 If determined to be feasible and advantageous, pursue funding mechanisms and proposals to construct appropriate sound absorbing baffles and/or roofing above the existing Police Firing Range, to reduce the noise generated by a maximum use of the facility to surrounding overall (ambient) noise levels.

4.2.18 Noise Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies contained within the Noise Section of the General Plan. Each implementation program is followed by a number or numbers indicating the pertinent policy or policies which it is intended to help implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

- The City of Redondo Beach shall adopt and enforce an appropriate and legally-adequate revised local Noise Ordinance, to be incorporated within the City of Redondo Beach Municipal Code. Said ordinance shall contain policies and regulations addressing both overall (ambient) and stationary source noise impacts, and shall attempt to address the range and intensity of noise issues addressed within the Noise Section of the General Plan. The revised Ordinance shall be completed and adopted within eighteen (18) months of the adoption of the updated General Plan (*Policy 10.1.1, 10.1.2, 10.3.1, 10.3.2, 10.3.3, 10.3.4, 10.6.1, 10.6.2, 10.7.3, 10.8.1, 10.9.2, 10.9.3, 10.11.3, 10.12.2, 10.13.1, and 10.13.2*).
- Representatives of the City of Redondo Beach Community Development (Planning) Department and the Department of Public Works shall, on an ongoing basis, review available technical and acoustical data and studies conducted in the community, and, as necessary, shall commission the gathering of additional acoustical data and the conduct of additional acoustical analyses, in order to effectively monitor and update existing and future noise levels and impacts in the City of Redondo Beach (*Policy 10.2.1*).
- This noise monitoring and data collection effort shall include assuring the availability to the public of an existing local noise contour map, indicating estimated City-wide Ldn noise levels, which shall be used to determine the geographic areas in the community exposed to existing noise levels which would cause a proposed development or project at a particular site to be subject to the conduct of a specific acoustical analysis detailing the noise conditions and impacts expected to be experienced at such a particular site, as a part of the environmental review and approval process of the development or project (*Policy 10.2.1, 10.3.1, 10.3.2, 10.3.3, 10.3.4*).

- The existing local noise contour map, including the low frequency noise contour map related to the Southern California Edison Plant, shall be updated, as necessary, but not less than every five years, to ensure the highest possible level of accuracy in the use of this information (*Policy 10.2.1*).
- Based on the results of the above-listed review and monitoring of noise data and materials, the City of Redondo Beach shall require the use of known technological and mechanical noise impact mitigation measures during the existing environmental and development review and approval process. Such measures shall also be listed and included within local building permit applications/information materials distributed to the public (*Policy 10.2.2*).
- Include specific provisions within the revised local Noise Ordinance which requires new noise-sensitive land uses (including health care facilities and libraries) exposed to noise levels exceeding and Ldn of 60dB(A) exterior, to implement mitigation measures within their sites and structures which will reduce interior noise levels to levels no greater than an Ldn of 45dB(A) (*Policy 10.3.1*).
- Include specific provisions within the revised local Noise Ordinance which require that, prior to the issuance of certificates of occupancies and/or certificates of completion, habitable areas within all new hotel, motel, dormitory, long-term care facility, and multi-family dwellings proposed in areas exhibiting existing noise levels of an Ldn of 60 db(A) or greater demonstrate that interior noise levels do not exceed the level of an Ldn of 45dB(A). Facilities which fail to meet this requirement shall be required to install mitigation measures which reduce the interior noise level in these habitable areas to within the 45dB(A) Ldn level, prior to the issuance of certificates of occupancies and/or certificates of completion from the City of Redondo Beach Community Development (Building) Department (*Policy 10.3.2*).
- The City of Redondo Beach Community Development (Building) Department, or designated consultant, shall research and compile an available list of possible structural insulation and/or construction methods which can be used by the proponents of new single family homes proposed to be located in areas exposed to ambient noise levels exceeding an Ldn of 60 db(A) to reduce such noise levels. This list shall be made available and distributed to all individuals proposing or applying for approvals to construct a single family home or homes located within an area of the community which, according to the existing noise contour map, are exposed to ambient noise levels exceeding an Ldn of 60 db(A). Proposed structures would not be subject to the installation of such insulation methods if an appropriate acoustical analysis is submitted to the City of Redondo Beach Community

Development (Building) Department indicating that the site is not exposed to ambient noise levels exceeding an Ldn of 60 db(A) (*Policy 10.3.3*).

- Representatives of the City of Redondo Beach Community Development (Planning) Department shall specifically review proposals for new industrial, commercial, or related land uses, in concert with the existing local planning and environmental review process, to determine the potential impacts of such development on adjacent areas containing housing, schools, health care facilities, or other "noise-sensitive" land uses. Any proposals determined to be directly responsible for causing ambient noise levels in and around these adjacent "noise-sensitive" land uses to exceed an Ldn of 65 db(A) shall be modified, redesigned, or mitigated to reduce these impacts to a level of non-significance; otherwise, such proposed projects shall be prohibited (*Policy 10.3.4*).
- During the existing local planning, design, and environmental review process, all "noise-sensitive" land uses requiring discretionary approvals through the City of Redondo Beach shall be required to minimize the potential noise-related impacts on surrounding structures and occupants (*Policy 10.3.5*).
- During the existing local planning, design, and environmental review process, require that all new non-residential development proposals locate on-site ingress and egress points so as to minimize resultant noise-related impacts on nearby land uses (*Policy 10.4.1*).
- As budgetary and related operational conditions permit, the City of Redondo Beach shall purchase or renovate/maintain vehicles and other noise-generating mechanical equipment which comply with and conform to the latest available noise standards and requirements (*Policy 10.4.2*).
- City of Redondo Beach Department of Public Works staff shall meet, on at least an annual basis, with representatives of the Southern California Rapid Transit District, Torrance Transit, and other local and regional public transit providers to discuss and suggest the impacts of the operation of their vehicles on local noise conditions; feasible mitigation measures shall be suggested, requested, and implemented, as feasible, to reduce such impacts (*Policy 10.4.3*).
- All feasible policies and programs contained within the Transportation and Circulation Section of the General Plan relative to the further development and use of bicycle and pedestrian facilities as alternative modes of transportation shall be fully implemented, in order to reduce and minimize future noise-generating automobile trips (*Policy 10.4.4*).

- All feasible policies and programs contained within the Transportation and Circulation Section of the General Plan relative to transportation demand management (TDM) programs shall be implemented, in order to reduce traffic and associated noise levels in the community (*Policy 10.4.5*).
- During the existing local planning, design, and environmental review process, require that all new commercial and industrial loading and shipping facilities abutting residential areas be located and designed as such to minimize potential noise impacts on residential uses. For commercial and industrial projects relating to renovation of existing buildings, incorporate mitigation measures, as feasible, to minimize noise impacts on residential uses from loading and shipping facilities (*Policy 10.5.1*).
- During the existing local planning, design, and environmental review process, require that all new commercial and industrial parking areas abutting residential areas and all new parking structures be buffered and shielded by fences, walls, landscaping, or other design measures, and be designed internally in a fashion which would minimize potential noise impacts on residential uses (*Policy 10.5.2, and 10.5.3*).
- Ensure that the revised City of Redondo Beach Noise Ordinance contain provisions which specifically address and sufficiently regulate or limit: 1) the use of leaf blowers, parking lot sweepers, and other high noise-generating equipment; and 2) the hours of truck deliveries to commercial or industrial land uses abutting residential areas, to reduce their potential impacts upon local residential land uses (*Policy 10.5.4 and 10.5.5*).
- During the existing local planning, design, and environmental review process, ensure that commercial land uses proposed to be located below residential uses within mixed-use structures not be overly noise-intensive, and require that (through the implementation of design and construction measures and/or other means of mitigation) the transfer of noise and vibration from the commercial uses to the residential uses be minimized to the furthest extent practicable (*Policy 10.6.1 and 10.6.2*).
- Ensure that the revised City of Redondo Beach Noise Ordinance contain provisions which specifically address: 1) regulating and/or limiting the legally permitted hours of construction activities (particularly those occurring within or in close proximity to residential uses; and 2) require that operational techniques and practices be employed during construction activities to minimize the generation of adverse and/or excessive noise on adjacent land uses (*Policy 10.7.1, 10.7.2, and 10.7.3*).
- During the existing local planning, design, and environmental review process and the existing local building inspection process, ensure that all

applicable provisions of the Uniform Building Code and Redondo Beach Municipal Code which prevent and mitigate the transmission of excessive and unacceptable noise levels between tenants and businesses in commercial structures and between individual dwelling units within multi-family residential structures be adequately enforced (*Policy 10.8.1*).

- Ensure that the revised City of Redondo Beach Noise Ordinance contain provisions which specifically require that all local entertainment and restaurant/bar land uses, through the discretionary development approval process, include measures to limit the audibility of noise levels emanating from their establishments from the ambient noise level at distances of fifty (50) feet from the property line of the establishment (*Policy 10.9.1*).
- Require, through the imposition of discretionary development approval conditions and police enforcement, that all local entertainment and restaurant/bar land uses take appropriate measures to control and limit the activities and noise of patrons in and around their facilities, in order to reduce potential noise-related impacts on surrounding local residential areas (*Policy 10.9.2*).
- Ensure that the revised Redondo Beach Municipal Code require all proposed entertainment and restaurant/bar land uses to be subject to the local conditional use permit review and approval process, in addition to any and all other applicable development, design, and environmental reviews and approvals, to ensure that noise-related issues are specifically and adequately addressed. Through this process, locating such facilities adjacent to "noise-sensitive" land uses shall be discouraged or prohibited, unless it can be demonstrated that the potential noise-related impacts of the project can be mitigated to a level of non-significance (*Policy 10.9.3 and 10.9.4*).
- City of Redondo Beach Department of Public Works staff shall, on an ongoing basis, review local railroad operations and procedures to monitor potential noise-related impacts of these operations on the community. As necessary, staff shall meet with railroad operator officials to discuss operations and suggest or require (if possible) noise mitigation measures which would reduce the noise-related impacts of railroad operations on the community (*Policy 10.10.1 and 10.10.2*).
- Based on the results of the local Initial Study and Environmental Checklist process completed by the City of Redondo Beach Community Development (Planning) Department, all proposed new or expanded land uses determined to be potential major stationary noise sources, must fund and complete a specific acoustical analysis to identify, determine, and analyze potential noise impacts and propose appropriate mitigation measures which will reduce these potential noise-related impacts to a level of non-significance. Said

mitigation measures must be installed and tested prior to the issuance of a Certificate of Occupancy for the structure by the City of Redondo Beach Building Department. (Such analyses will be conducted in a manner similar to the environmental impact review process overseen by the City of Redondo Beach to assure independence and objectivity of the findings.) (*Policy 10.11.2*).

- During the existing local planning, design, and environmental review process and the existing local building inspection process, encourage major stationary noise generating sources to install additional noise buffering or reduction techniques to reduce noise generation levels in and around their facilities. The installation of such measures shall be required prior to the renewal of an existing Conditional Use Permit or prior to the issuance of a new Conditional Use Permit (*Policy 10.11.2 and 10.11.3*).
- City of Redondo Beach Community Development (Planning) Department staff and Department of Public Works staff representatives shall continue to actively monitor the performance and impacts of the existing Southern California Edison Company Power Plant related to noise generation, and shall meet and work with Southern California Edison Company officials on a regular basis, to suggest (and/or require where possible) the installation of additional mitigation measures and or operational regulations which will further lessen or eliminate the impacts of audible frequency noise and low frequency noise on the community (*Policy 10.12.1*).
- City of Redondo Beach Community Development (Planning) Department staff representatives shall meet and work with City of Redondo Beach Police Department officials to carry out an impact study weighing the potential advantages and disadvantages of making any physical or structural modifications to the existing Police Firing Range. If determined to be financial and structurally feasible and in the best interest of the City of Redondo Beach Police Department and the public, appropriate sound absorbing baffles and/or roofing shall be installed in the existing Police Firing Range, to reduce the noise-related impacts of operation of the facility. Said impact study shall be completed within eighteen (18) months of adoption of the updated General Plan (*Policy 10.13.1 and 10.13.2*).

SECTION 4.3

Flooding Hazards

4.3 FLOODING HAZARDS

Significant and far-reaching portions of the Los Angeles Basin (including the City of Redondo Beach) have experienced flooding events during historic times. Some of the more notable flood events occurred in the early 1800's, when the Los Angeles River would periodically shift its course/direction and eventual discharge point into the Pacific Ocean, alternating between the Santa Monica Bay area and the San Pedro/Long Beach Harbor areas. Specific major regional-scale flooding events have occurred in the Los Angeles basin on at least five occasions, including during the winters of 1938, 1943, 1952, 1956, 1959, 1969, 1977, and 1983.

Concrete channelization of the major rivers and drainages in the region and the installation of additional modern flood control and prevention improvements (primarily through the Los Angeles Department of Public Works Flood Control Division and Army Corps of Engineers) have reduced the potential for and occurrences of regional-scale flooding substantially over time. The same trend has occurred in the local area due to improvements constructed by the City of Redondo Beach Department of Public Works, Los Angeles County Department of Public Works Flood Control Division, and the Army Corps of Engineers.

Flooding hazards in a given individual community are directly related to a number of individual factors, including: 1) the intensity and duration of precipitation; 2) existing regional and local hydrological, geographic, and topographic features; 3) the type and extent of local impermeable ground surfaces and vegetation cover; and 4) existing local drainage and flood control and prevention improvements.

4.3.1 Local Precipitation Characteristics

Despite continuing natural deviations due to alternating drought and wet periods, the overall intensity and duration of rainfall in the region (and community) have not changed substantially from historic times to the present. The average annual rainfall recorded for the South Bay area of the Los Angeles Basin for the thirty year period from 1959 to 1989 was 11.85 inches.

In the seven year period since July of 1984, the City of Redondo Beach Department of Public Works has recorded an average annual total of approximately 9.32 inches of rainfall in the local area (approximately 20 percent below the 30 year "normal" average), ranging from a high of 16.2 inches (from July, 1985 to July, 1986) to a low of 5.25 inches (from July, 1989 to July, 1990). This local total has averaged only 6.86 inches per year from July, 1988 to July, 1991 (more than 25 percent lower than even the below normal seven year average). The trend reflected in this data is indicative of the severe drought conditions experienced in the southern California region during the last five year period.

4.3.2 Regional Drainage/Flood Control Features

Although the southern half of the City of Redondo Beach, is, in general, located in a relatively low-lying coastal area, it is not a major regional drainage or outfall area. Major drainages of the region (all three of which have been channelized by the Army Corps of Engineers and the Los Angeles County Department of Public Works Flood Control Division):

- (1) The Los Angeles River, whose headwaters are located in the foothills of the San Fernando Valley (due northwest of the Sepulveda Dam), approximately 32 miles northwest of the City of Redondo Beach. The river flows in a south/southeasterly direction through the center of the Los Angeles Basin, passes by the City of Redondo Beach approximately eight miles due east of the Civic Center, between the Cities of Carson and Long Beach, and terminates and discharges into San Pedro Bay and the Pacific Ocean in the City of Long Beach, approximately 12 miles southeast of the City of Redondo Beach Civic Center;
- (2) The Rio Hondo River, whose headwaters are located in the City of Rosemead (due north of the Whittier Narrows Dam), approximately 20 miles northeast of the City of Redondo Beach Civic Center. The river flows in a south/southwesterly direction, terminating and discharging into the Los Angeles River near the City of Lynwood, approximately 15 miles northeast of the City of Redondo Beach Civic Center.
- (3) The San Gabriel River, whose headwaters are located in the foothills of the San Gabriel Mountains north of City of Glendale (north of the Santa Fe Dam), approximately 30 miles northeast of the City of Redondo Beach. The river flows in a south/southwesterly direction, (a portion of which is diverted to and discharges into the Rio Hondo River at the Whittier Narrows Dam), and continues flowing south, terminating and discharging into the Pacific Ocean on the eastern side of the City of Long Beach, approximately 18 miles southeast of the City of Redondo Beach Civic Center.

In addition to these "primary" regional drainages of the Los Angeles Basin, the southern Los Angeles area and South Bay region storm drainage/flood control network includes a series of three large "secondary" drainages (these have also all been channelized (at least partially) by the Army Corps of Engineers and the Los Angeles County Department of Public Works Flood Control Division.

- (1) The Dominguez Channel, which originates in the City of Hawthorne (due north of the Hawthorne Municipal Airport and east of the San Diego [405] Freeway) approximately five miles northeast of the City of Redondo Beach Civic Center.

The channel flows in a south/southeasterly direction past the Dominguez Hills (essentially following the path of the San Diego [405] Freeway) through the Cities of Lawndale, Torrance, and Carson (approximately six miles due east of the City of Redondo Beach Civic Center), and turns due south approximately one mile west of the Long Beach (710) Freeway, running through the Wilmington District of the City of Los Angeles, terminating and discharging into Los Angeles Harbor/San Pedro Bay and the Pacific Ocean, approximately two miles east of the outfall of the Los Angeles River.

As detailed in Section 3.2 of this document, the majority of the existing storm drainage system of North Redondo Beach flows and drains into the Dominguez Channel as its primary means of storm drainage to the ocean.

- (2) The Ballona Creek, which originates near the Mid-Wilshire District of the City of Los Angeles (due northeast of the intersection of La Cienega Boulevard and the Santa Monica (10) Freeway) approximately 18 miles northeast of the City of Redondo Beach Civic Center.

The channel flows in a south/southwesterly direction through the City of Culver City (essentially following the path of Jefferson Boulevard), turns due west through the Westchester District of the City of Los Angeles (due north of Jefferson Boulevard and the Hughes Airport), terminating and discharging into the Pacific Ocean at Dockweiler State Beach (due north of Playa del Ray and due south of Marina del Ray), approximately eight miles northwest of the City of Redondo Beach Civic Center.

- (3) The Compton Creek, which originates due west of the Watts area of the City of Los Angeles (due northeast of the intersection of Imperial Highway and the Harbor (110) Freeway) approximately eight miles northeast of the City of Redondo Beach Civic Center.

The channel flows in a south/southeasterly direction through the City of Compton, crosses due southwest of the intersection of Alameda Street and the Artesia (91) Freeway, continues southeasterly throughout the northern tips of the Cities of Carson and Long Beach, terminating and discharging into the Los Angeles River north of intersection of the Long Beach (710) Freeway and San Diego (405) Freeway, approximately ten miles due east of the City of Redondo Beach Civic Center.

4.3.3 Local Flood Hazard Potential

In general, due to the reasons described below, the geographic and topographic features of the City of Redondo Beach related to drainage and flooding differ sharply between North Redondo Beach and South Redondo Beach.

The entirety of North Redondo Beach is located further inland of and in general at a higher elevation than South Redondo Beach and the lower-lying coastal areas of the community. The area also is virtually entirely developed and covered with impermeable surfaces (i.e., buildings, asphalt, concrete) or vegetation cover, causing a relatively high and efficient rate of natural drainage and runoff into the storm drainage system. Primarily for these reasons, this portion of the community (excluding the few unique and specific exceptions detailed below), is not impacted by regional, coastal-related, or major local flooding.

The eastern portion of South Redondo Beach and the western central portions of South Redondo Beach essentially sit up on a "bluff" elevated well above the lower-lying coastal area located on the west side of Pacific Coast Highway. These areas are also virtually entirely developed and covered with impermeable surfaces or vegetation, causing a relatively high and efficient rate of natural drainage and runoff into the storm drainage system. For these reasons, these areas of the community (excluding the few unique and specific exceptions detailed below) are also less susceptible to regional, coastal-related, or major local flooding.

The northwestern and southwestern portions of South Redondo Beach (particularly the harbor and basin areas and beach areas) are lower-lying areas located in direct proximity to the coast and Pacific Ocean. For these reasons, as one can logically conclude, these areas are more exposed, and are substantially more susceptible to potential impacts related to regional, coastal-related, and major local flooding.

4.3.4 Local Flood Control/Prevention Features

For the most part, all areas in the City of Redondo Beach (particularly those most susceptible to flooding) are well served by the existing local storm drainage network. The network is a cooperative, multi-jurisdictional system, partially maintained by the City of Redondo Beach Public Works Department and partially maintained by the Los Angeles County Department of Public Works Flood Control District.

In general, the system is comprised of a series of catch basins and sumps (which either through gravity or forced pumping) direct excess runoff and storm water into the network of storm drain pipes located below the local streets. These pipes carry and discharge the water into the Dominguez Channel or into the Pacific Ocean through one of the thirteen local outfalls located along the southwestern shoreline of the City.

The specific details of the features and function of the local storm drainage system, and descriptions of future proposed improvements to the system, are described in Section 3.2 of this document.

In addition to the inland storm drainage system, the harbor and harbor basin area of the City (located in the northwestern area of South Redondo Beach and including the various marinas located in the City) are protected from coastal flooding and damage related to storm-generated flooding by a large rock/stone material rip-rap breakwater wall.

The breakwater extends out like a large arm extending out to the west due south of the terminus of Herondo Street, and curving to the south approximately 3,000 linear feet (over one half of a mile), serving as a protective wall between the open and exposed portions of Santa Monica Bay and the Pacific Ocean and the structures, areas, and boats located in the northern coastal area of the City.

In the 1930's a small breakwater facility was installed to protect the harbor area from flooding and storm-related damage. In the mid 1950's the existing large breakwater facility (at a height of 14 feet above the mean low water level) was constructed; in 1963 portions of the facility were elevated to a height of 20 feet above the mean low water level. There is also a project currently underway between the City of Redondo Beach and the Army Corps of Engineers to elevate the height level of the remainder of the existing breakwater to 20 feet above the mean low water level, to extend the southern portion of the breakwater approximately 150 linear feet, and to raise the southern portion of the breakwater to a height of 16 feet above the mean low water level. These improvements will further enhance the ability of the breakwater to protect the harbor area from flooding and storm-related damage.

Prior to any of this protection, significant damage had occurred to a number of major structures and areas of the harbor. Even recently (within the last five years), particularly violent weather systems have caused storm-related damage to the Portofino Inn and the Municipal Pier structures.

The roadways and structures along Harbor Drive and the Esplanade, located due east of the public beach area extending almost the entire length of South Redondo Beach, are also protected from coastal-related damage and flooding. These areas are elevated approximately eight feet above the level of the beach area, and are further protected by a concrete block retaining wall running along the length of the Esplanade.

4.3.5 Local Flood Hazard Ratings

The Federal Emergency Management Agency (FEMA), under the Federal Insurance Administration, has qualitatively rated and mapped the potential for flooding within the City of Redondo Beach as part of the National Flood Insurance Program (Community Panel Reference Numbers 060150-6002-B and 060150-0001-B, effective date September 15, 1983). Under the program all areas of the community are placed within one of ten different categories signifying their potential for flooding during a given increment of time (years).

These maps, used to determine official flood insurance requirements and rates, do not indicate all areas ever subject to possible flooding, but are the best (i.e., most accurate) and most official (and accepted) source for discussion and analysis of this subject. The ten ratings and their accompanying map symbols are summarized as follows, from best to worst, including:

- (1) areas of minimal flooding [symbol C];
- (2) areas of undetermined, but possible flood hazards [symbol D];
- (3) areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years) [symbol B];
- (4) areas within the expected limits of flooding resulting from a 100 year storm event to be protected by a flood protection system under construction [symbol A99];
- (5) areas within the expected limits of coastal flooding with velocity (i.e., wave action) resulting from a 100 year storm event, with flood elevations and hazards not determined [symbol V];
- (6) areas within the expected limits of coastal flooding with velocity (i.e., wave action) resulting from a 100 year storm event, with flood elevations and hazards determined [symbol V1-V30];
- (7) areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined [symbol A1-A30];
- (8) areas within the expected limits of shallow flooding (i.e., depths between 1 to 3 feet) resulting from a 100 year storm event, with flood elevations determined but no flood hazards determined [symbol AH];
- (9) areas within the expected limits of shallow flooding (i.e., depths between 1 to 3 feet) resulting from a 100 year storm event, with average depths of flood inundation determined but no flood hazards determined [symbol AO]; and
- (10) areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards not determined [symbol A].

The various flood hazard ratings applicable in the City of Redondo Beach are detailed below. The vast majority of the City of Redondo Beach (in both North Redondo Beach and South Redondo Beach) have been rated in the (C) category, and are subject to minimal or no flooding.

North Redondo Beach

A total of seven small and isolated areas in North Redondo Beach have been rated as subject to greater than minimal flooding, and have been designated with one of the nine substantive flood hazard ratings.

Five of these seven areas have been rated in the (B) category (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and available data, has the probability of occurring once approximately every 100 years).

These areas include: 1) a small, low-lying, rectangular-shaped area within the North Redondo industrial area, located due north of the intersection of Marina Avenue and Aviation Boulevard; 2) a small, low-lying, oval-shaped area located due northwest of the intersection of Inglewood Avenue and Manhattan Beach Boulevard; 3) a small, low-lying, linear/oval-shaped area within the turfed Southern California Edison transmission corridor right-of-way, located east of Dow Avenue, between Manhattan Beach Boulevard and Beland Boulevard; 4) a small, low-lying, circular-shaped area located along the public right-of-way and residential area along Carnegie Lane, between Blossom Lane (to the east) and Green Lane (to the west); and 5) a small, low-lying, oval-shaped area located within the California Water Service Company Reservoir #10 property (to the rear of the former Andrews School property), located due west of Aviation Way and due north of Rockefeller Lane.

Two of these seven areas have been rated in the (A1 to A30) category (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined.

These areas include: 1) a small, low-lying, triangular-shaped area in a single family residential area, located due northwest of the intersection of Ripley Avenue and Rindge Lane; and 2) a small, low-lying, trapezoidal-shaped area (one of the five existing and aforementioned drainage sumps), located due south of the intersection of Aviation Boulevard and Artesia Boulevard, between Ford Avenue and Goodman Avenue.

South Redondo Beach

A total of five small and more isolated areas and three larger and more prominent areas in South Redondo Beach have been rated as subject to greater than minimal flooding, and have been designated with one of the nine substantive flood hazard ratings. The five smaller and more isolated areas include:

- (1) A small, low-lying, and rectangular-shaped area (within the Southern California Edison transmission corridor right-of-way now being used as a commercial plant nursery), located due south of Anita Street, between Harkness Lane, to the east, and Goodman Avenue, to the west. This area is rated in the (B) category (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years).
- (2) A small, low-lying, circular-shaped area (one of the five aforementioned drainage sumps), in the center of the Redondo Beach Union High School athletic fields), located due east of Helberta Avenue, between Del Amo Street, to the north, and Vincent Street, to the south. The center of the area is rated in the (A1-A30) category (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined).

The outer ring of the area is rated in the (B) category, (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years).

This area is the focus of major storm drainage improvements that are currently planned by the County of Los Angeles Department of Public Works Flood Control Division under the Vincent Street Drain Project (for details of these planned improvements, please see Section 3.2 of this document).

- (3) A small, low-lying, oval-shaped area (along the South Irena Avenue right of way and adjoining residential area), located between Vincent Street, to the north, and Spencer Street, to the south. The area within the right of way is rated in the (A1-A30) category (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined). The area within the residential portion is rated in the (B) category, (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years).

This area will also be served by the major storm drainage improvements that are currently planned by the County of Los Angeles Department of Public Works Flood Control Division under the Vincent Street Drain Project (for details of these planned improvements, please see Section 3.2 of this document).

- (4) A small, low-lying, rectangular-shaped area (within the southern half of Alta Vista Park), located due southeast of the intersection of Camino Real and Juanita Avenue. The northern three-quarters of the area is rated in the (A1-A30) category (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined).

The southern one-quarter of the area is rated in the (B) category, (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years).

- (5) A small, low-lying, oval-shaped area (one of the five aforementioned drainage sumps [the Avenue "H" Sump]), located due southeast of the intersection of Avenue H and Massena Avenue. This area is rated in the (A1-A30) category (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined).

This area is the focus of major storm drainage improvements that are currently planned by the County of Los Angeles Department of Public Works Flood Control Division under the Doris Coast Pump Station Project (for details of these planned improvements, please see Section 3.2 of this document).

The three larger and more prominent areas of potential flood hazard in South Redondo Beach include:

- (1) A large, extremely low-lying, rectangular-shaped area at the far southwestern corner of the City (including the beach and waterfront area), located due west of the Esplanade, between Avenue "I", to the north, and the City of Torrance municipal boundary, to the south. This area is subject to coastal storm and wave action impacts related to the geographic function of the Palos Verdes Peninsula, and is rated in the (V) category, (i.e., areas within the expected limits of coastal flooding with velocity (i.e., wave action) resulting from a 100 year storm event, with flood elevations and hazards not determined;
- (2) A large, low-lying, linear/rectangular-shaped area at the far southern end of the City (including the Avenue "I" right-of-way and commercial parcels directly on the north and south sides of the right-of-way, between South Elena Avenue, to the east, and the Esplanade, to the west. This area is rated in the (B) category, (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years).

Drainage capacity in this area will be improved by major storm drainage improvements that are currently planned by the County of Los Angeles Department of Public Works Flood Control Division under the Knob Hill Coast Drain Project (for details of these planned improvements, please see Section 3.2 of this document.

- (3) A large and generally oval-shaped area including: a) the entirety of the harbor and harbor basin bulkhead areas within the existing breakwater closest to the water's edge; b) the harbor basin areas themselves; c) the area of the location of the Municipal Pier; d) the breakwater itself; and e) the water areas directly outside the breakwater. All of these areas are also subject to greater than minimal flooding hazard, and are rated as follows:
- The bulkhead areas or walls directly at the water's edge along the entire outline of the harbor land mass between the City of Hermosa Beach boundary, to the north, to the southern end of Harbor Basin #3, to the south, and the entire inside edge of the breakwater itself are rated in the (B) category, (i.e., areas between the expected limits of minimal flooding (from only a 500 year storm event) and the areas within the expected limits of flooding resulting from a 100 year storm event (i.e., based on historic trends and data, has the probability of occurring once approximately every 100 years):
 - The entirety of each of the Harbor Basins and water area within the boundary of the breakwater itself, the outer edge of the breakwater itself, and the land area directly at the water's edge below the remaining structure of the Municipal Pier (not the portion supported on piles) are rated in the (A1-A30) category, (i.e., areas within the expected limits of flooding resulting from a 100 year storm event, with flood elevations and hazards determined; and
 - The area below the remaining structure of the Municipal Pier supported by piles and the water area directly outside the breakwater along the entirety of its length are rated in the (V1-V30) category, (i.e., areas within the expected limits of coastal flooding with velocity (i.e., wave action) resulting from a 100 year storm event, with flood elevations and hazards determined.

As previously mentioned, flood protection capabilities in the harbor area as a whole, will be incrementally improved by the project currently underway between the City of Redondo Beach and the United States Army Corps of Engineers to raise the height level of the existing breakwater facility.

4.3.6 Summary

The combination of the relatively favorable topographical, meteorological, and high ground coverage/low permeability characteristics of the local area, the lack of a major regional-scale drainage terminating and discharging in the local area, and the substantial amount of local storm drainage improvements (both existing and proposed) in the community make the City of Redondo Beach a comparably low hazard area relative to flooding hazard, despite the City's overall coastal location and low-lying nature.

The drainage capacity of the primary inland areas of higher flood hazard potential in the community (the majority of which are existing low-lying and underimproved drainage sumps) will soon be enhanced through proposed capital improvements projects. The flood hazard and storm-damage related potential of the harbor area will also be substantially reduced through a capital improvement project to be undertaken later this year by the City of Redondo Beach and Army Corps of Engineers.

4.3.7 Goals, Objectives, Policies, and Implementation Programs

Because of the different types of potential flooding hazard and the related nature and degree of overlap between these types of flooding hazards and other specific topic areas of the General Plan, the goals, objectives, policies, and implementation programs related to flooding hazards have been included within the appropriate specific topic areas of the document, as follows:

- Precipitation and drainage-related flooding hazard goals, objectives, policies, and implementation programs have been included within the storm drainage portion of the Utilities Section (Section 3.2 of this document).
- Tsunami and seismic-related flooding hazard goals, objectives, policies, and implementation programs have been included within the tsunami portion of the Geologic/Seismic Hazards Section (Section 4.1 of this document).
- Evacuation or emergency response goals, objectives, policies, and implementation programs related to flooding hazards have been included within the emergency operations portion of the Fire Hazards Section (Section 4.5 of this document).

SECTION 4.4

Toxic Wastes and Materials

4.4 TOXIC WASTES & MATERIALS

4.4.1 Statutory Requirements

The preparation of hazardous waste management plans, and the siting of hazardous waste facilities in the State of California are governed by and subject to the terms and provisions of the Tanner Act (Assembly Bill 2948, approved in September of 1986). The Tanner Act authorizes and mandates each county to adopt a Hazardous Waste Management Plan pursuant to specified guidelines by September of 1988.

Previous law required hazardous materials planning to be addressed within the Solid Waste Management Plan, the hazardous waste portion of which was subject to review by the California Department of Health Services (DOHS). The Tanner Act also prohibits the establishment or expansion of any facility which treats or disposes of hazardous materials, unless the City or County with jurisdiction determines consistency with the County Hazardous Waste Management Plan (Office of Planning and Research, 1987).

4.4.2 Analysis

Hazardous waste falls into four general categories of materials that have some distinct characteristics in the different types of danger they present. These include materials that are either: 1) toxic; 2) explosive; 3) reactive; or 4) corrosive. To be in accordance with the terms and provisions of the Tanner Act, respective local or regional hazardous waste management plans need to include provisions for the following:

- 1) Planning process for waste management
- 2) Permit process for new and expanded facilities
- 3) Appeal process to the state for certain local decisions

The Tanner Act also requires that local or regional waste management plans address the following specific issues:

- 1) Analysis of current hazardous waste streams, treatment and disposal facilities availability and estimates of expected rates of generation until 1994;
- 2) Analysis of the potential for hazardous waste reduction;
- 3) Consideration of need to manage small volumes of hazardous waste from businesses and households;
- 4) Determination of need for additional hazardous waste disposal facilities;

- 5) Identification of specific sites for additional hazardous waste facilities or identification of siting criteria for locating additional hazardous waste facilities; and
- 6) Formation of goals, objectives and policies for hazardous waste facilities and hazardous waste management through the year 2000. Additionally, a county may include other elements in the plan such as a description of local programs for public education, enforcement, surveillance, transportation and administration.

The present Los Angeles County Hazardous Waste Management Plan was approved by the City of Redondo Beach City Council on February 21, 1989. To meet state law, the City adopted an ordinance requiring that any approval of an off-site hazardous waste facility meet the minimum siting criteria established under the County Plan. The Los Angeles County Hazardous Waste Management Plan is still under review by the State Department of Health Services.

Hazardous Waste Operations

Under the federal Resource Conservation and Recovery Act (RCRA), permits are required for the generation, storage, treatment or disposal of hazardous wastes. Activities which require permits range from the use of solvents and flammable material in the ordinary repair of automobiles to the treatment or handling of hazardous wastes in large quantities over prolonged periods of time.

Permits issued to generators of hazardous wastes can be of three types or grades depending upon the amount of wastes produced each month. A special permit is required for the transport of hazardous wastes.

Operations which involve the treatment of hazardous wastes or storage over long periods of time (more than 90 days) require the issuance of a Treatment, Storage and Disposal permit (TSD permit) under the Resource Conservation and Recovery Act (RCRA). An Interim Status Document (ISD) is a permit which allows facilities to operate until formal hazardous waste permits are issued.

A number of hazardous or potentially hazardous waste sites are located in the City of Redondo Beach (the sites and locations are available through the City Department of Public Works or the State Department of Health Services). Inclusion in this category only indicates the presence or potential of hazards on these sites, and does not suggest any willful neglect or illegal activity on the part of the parties identified. The type of the potential hazards (e.g., fire, explosion, groundwater, ocean or human contamination) are also detailed in this information. A number of these sites have leaking underground gasoline tanks, a few have toxic settling ponds with leaching of acids and metals. Other potential local contaminants are undetermined at this

time. Remedial action is presently planned through the Environmental Protection Agency Superfund at Microtonics Inc.

In addition, facilities which have permits to generate, transport, store, treat or dispose of hazardous substances are shown in the appended list (**Table 53**). The list does not, however, make any judgments or conclusions relative to compliance or non-compliance of the respective facilities with applicable laws and regulations. These lists have been compiled from the CERCLIS (Comprehensive Environmental Response Compensation and Liability Information System), the Resource Conservation and Recovery Act (RCRA) listing of the Environmental Protection Agency, as well as listings of the Department of Health Services and the Regional Water Quality Control Board.

Emergency Response

Each generator of hazardous waste is required by state and federal laws to form an emergency plan called a "Business Plan," and to send a copy to the local Fire Department. This plan must contain a site plan showing the location of the such substances, a detailed list of hazardous substances, a description of the evacuation emergency routes, and a training plan for employees. The County and the City have developed an area-wide response plan.

Short-term response to accidents caused by hazardous substances (e.g., fire, explosions, spills) is provided by the local Fire Department. The Fire Department maintains protective equipment required by the Occupational Safety and Health Administration (OSHA) for most dangerous situations. If special expertise is needed, assistance is provided by the Hazardous Material Teams of the County Health Department and the Los Angeles County Fire Department.

The Hazardous Material Team of the Los Angeles County Health Department responds on demand when they are called by other agencies. They help in the identification and location of hazardous materials, oversee the clean up activities and make sure that they are done according to the regulations. This team has only up to "level B" protection equipment and some monitoring equipment. The Los Angeles County Fire Department Hazardous Materials Team provides up to "level A" protection for mitigating the most severe chemical hazards. The City Police Department might be involved on the scene for traffic regulations. Both the Fire Department and Hazardous Material Control Program of the County Health Department also play a role in identifying suspect hazardous waste sites or illegal dumping of hazardous substances.

TABLE 53

Permitted Local Users of Hazardous Materials

<u>Facility</u>	<u>Permit(*)</u>
<u>Southern Redondo Beach (90277)</u>	
1. Beach Cleaners 306 S. Catalina	Generator 1
2. Century Cleaners 223 Palos Verdes Blvd.	Generator 1
3. Gordon Body Shop 638 Torrance Blvd.	Generator 2
4. Oakley Cleaners 1408 S. Pacific Coast Highway	Generator 1
5. Pacific Cleaners and Laundry 1306 S. Pacific Coast Highway	Generator 2
6. Parisian Cleaners 400 Diamond Street	Generator 1
7. Richway Cleaners 443 N. Francisca	Generator 1
8. Sea Breeze Cleaners 443 N. Francisca	Generator 2
9. So California Edison 1100 Harbor Drive	Generator 1
10. Thrifty Clean 1000 Torrance Blvd.	Generator 2

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- * Generator 1: >1,000 kg/month of non-acutely hazardous wastes or > kg/month of acutely hazardous wastes.
Generator 2: 100–1,000 kg of non-acutely hazardous wastes.
Generator 3: <100 kg of non-acutely hazardous wastes.

TSD categories: refer to permit status, where the facility is in the permit process.

TABLE 53 (Cont.)

	<u>Facility</u>	<u>Permit(**)</u>
11.	Vernonicas Cleaners 633 N. Pacific Coast Highway	Generator 3
12.	Wardrobe Cleaners 126 N. Catalina	Generator 1
13.	West Oaks Cleaners 541A N. Pacific Coast Highway	Generator 2
14.	Woodstock Furniture Inc. 800 Torrance Blvd., #110	Generator 3
<u>Northern Redondo Beach (90278)</u>		
15.	B & B Drapery Service 575 Mary Ann Drive	Generator 1
16.	Bay Distributors 2420 Santa Fe Avenue	Generator 2
17.	Expert Cleaner 2606 Artesia Blvd.	Generator 2
18.	Klean Rite Cleaners 2299 W. 190 Street	Generator 3
19.	TRW Inc. 4030 Freeman Blvd.	Generator 1 Transportation
20.	Redondo Auto Body Shop 620 Mary Ann Drive	Generator 1

** Generator 1: >1,000 kg/month of non-acutely hazardous wastes or > kg/month of acutely hazardous wastes.
 Generator 2: 100–1,000 kg of non-acutely hazardous wastes.
 Generator 3: <100 kg of non-acutely hazardous wastes.

TSD categories: refer to permit status, where the facility is in the permit process.

TABLE 53 (Cont.)

	<u>Facility</u>	<u>Permit(***)</u>
21.	So Ca Gas Co 182nd St. Base 2929 W. 182nd Street	Generator 2
22.	TRW E&Ds RB 1 Space Park RB	Generator 1
23.	TRW Inc. 1 Space Park Transportation TSD2	Generator 1
24.	TRW Inc. 2512 Artesia Blvd.	Generator 2
25.	TRW Inc. 2500 Compton Blvd.	Generator 2
26.	TRW Inc. 2501 Santa Fe Avenue	Generator 2
27.	TRW Inc. 2425 Manhattan Beach Blvd.	Generator 2
28.	TRW Inc. Bldg R8 Complex 2005 Manhattan Beach Blvd.	Generator 1
29.	Tune-up Masters 2622 Artesia Blvd.	Generator 3
30.	VSI Corporation 4001 Inglewood Avenue	Generator 1
31.	Web Service Co., Inc. 3690 Freeman Blvd.	Generator 2

*** Generator 1: >1,000 kg/month of non-acutely hazardous wastes or > kg/month of acutely hazardous wastes.

Generator 2: 100–1,000 kg of non-acutely hazardous wastes.

Generator 3: <100 kg of non-acutely hazardous wastes.

TSD categories: refer to permit status, where the facility is in the permit process.

Water Contamination

The presence of a number of hazardous waste generators and sites within the City of Redondo Beach indicates that contamination of groundwater supplies could be possible. The proximity of some of the existing hazardous waste sites to the ocean and beaches could be of particular concern (especially the large Southern California Edison plant with settling ponds containing acids and metals).

Issues

The following issues regarding hazardous wastes and toxic materials in the City of Redondo Beach have been identified:

- (1) A certain amount of hazardous waste material and toxics will be stored, treated and transported in the City. The Los Angeles County Hazardous Waste Management Plan prescribes minimum environmental criteria to be used in considering land use decisions for the storage and transfer of hazardous and toxic materials, the City can provide more restrictive guidelines if it so desires.
- (2) In addition to hazardous waste regulations, specific land use regulations in the City of Redondo Beach Zoning Code can be developed to protect sensitive facilities such as schools and hospitals.
- (3) The handling of hazardous waste material can be excluded from certain areas in the City. This action can provide for the protection of environmentally sensitive resources such as air quality, groundwater, ocean and beaches, wetlands, habitats of rare and endangered species, agricultural lands, natural resources of recreational, cultural, and aesthetic value, critical public facilities, and valuable mineral resources.
- (4) The City of Redondo Beach can participate in the process of selecting transportation routes which are acceptable for the safe transportation of hazardous waste material within the City's corporate limits. Streets with high concentrations of people, or streets adjacent to sensitive facilities, such as schools and parks, can be considered for exclusion.
- (5) Hazardous waste facilities should be structurally stable to ensure the effective containment of the hazardous material. Areas acceptable for hazardous waste facilities can be selected to avoid natural hazards such as earthquakes, floods and storm-generated waves.
- (6) Plans for new development are reviewed by the various departments in the City. These departments are in good position to identify potential hazardous waste generators and advise them of required permits before they are established.

- (7) The City Fire Department and the City Police Department can continue to play a key role in the on-site identification of hazardous wastes, tracking of illegal dumping (especially near the beaches), and emergency response to hazardous waste accidents through cooperation with the County Health Departments.

4.4.3 Goals, Objectives, and Policies

The following presents the goals, objectives, and policies for toxic wastes and hazardous materials section of the General Plan.

Goal *It shall be the goal of the City of Redondo Beach to:*

- 11A Protect the public health, safety, and welfare, and the overall environment of the City of Redondo Beach through proper planning for the management, handling, and transportation of toxic and hazardous waste and materials; ensure a coordinated and effective emergency response system; reduce the risk to the public from known contamination sites; decrease the risks to the public from the transport, handling, storage, and disposal of hazardous uses/materials; and minimize the threat of surface and subsurface water contamination and promote restoration of healthful groundwater resources.

Objective *It shall be the objective of the City of Redondo Beach to:*

- 11.1 Promote and assist in the oversight of the proper operation and upkeep of local hazardous waste facilities, as well as the safe management, handling, and transportation of toxic and hazardous materials through the enforcement of applicable state and local regulations.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 11.1.1 Develop and adopt long-range planning programs to protect local resources and the public from toxic and hazardous waste and materials.
- 11.1.2 Determine the need for and assist in the planning and environmental review of additional toxic and hazardous waste facilities in the local area and the region.
- 11.1.3 Cooperate with the State Department of Environmental Health Services and the Los Angeles County Department of Health Services to enforce applicable regulations for safe operation of toxic and hazardous waste facilities and adopt new regulations relative to this subject as they become necessary.

- 11.1.4 Promote waste minimization and use of best feasible technology in City businesses that must use, store, and/or transport toxic or hazardous waste or materials.
- 11.1.5 Encourage the use of competent operators for toxic and hazardous waste and materials transportation and disposal services.
- 11.1.6 Facilitate coordinated and effective responses to toxic and hazardous waste and materials emergencies in the City to minimize health, property, and environmental risks, damage, and consequences.
- 11.1.7 Encourage general public awareness and knowledge of emergency response planning and procedures.
- 11.1.8 Promote integrated inter-agency and interdepartmental review and participation in water resource evaluation and mitigation programs to protect against toxic and hazardous waste contamination of the local water supply.
- 11.1.9 Protect surface water and groundwater quality from new or additional contamination from toxic or hazardous wastes.
- 11.1.10 Eliminate and/or clean existing sources of water supplies that have been previously contaminated by toxic or hazardous materials and uses.
- 11.1.11 Develop programs and incentives for prevention and clean-up of toxic or hazardous wastes by private owners, business people, and the public-at-large.
- 11.1.12 Develop programs to collect and dispose of household hazardous waste from local residences (mandated as a component of the local Solid Waste Management Plan, see Solid Waste and Recycling section).

4.4.4 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Toxic Wastes and Materials Section of the General Plan. Each implementation program is followed by a number which indicates the pertinent policy or policies which it is intended to implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

- Ensure, through ongoing monitoring and inspection activities, that the City of Redondo Beach, its businesses, and residents comply fully with the terms and provisions of the adopted County of Los Angeles Hazardous Waste Management Plan (*Policy 11.1.1, 11.1.3*).
- The City of Redondo Beach shall pursue and adopt locally-based planning efforts and additional local ordinances/policies which supplement those contained in the County of Los Angeles Hazardous Waste Management Plan, and respond to specific local circumstances and changes in future conditions (*Policy 11.1.1, 11.1.3*).
- Representatives of the City of Redondo Beach Community Development (Planning) Department, Public Works Department and Fire Department shall actively monitor and participate, where appropriate, in the planning and environmental review of additional toxic and hazardous waste facilities proposed to be located in both the local area and the region. This effort may include consultation with relevant State and County officials, and/or the retention of expert consultants, as necessary, to ensure that legal siting criteria are met and that the public interest and public health and welfare is adequately protected (*Policy 11.1.1, 11.1.2, 11.1.3*).
- The City of Redondo Beach Fire Department, Public Works Department and City of Redondo Beach Environmental and Utilities Commission shall periodically review State and County standards for evolving technology and methods to minimize the generation of toxic or hazardous wastes and materials and improve safety in the use, storage, and transport of such wastes and materials. As appropriate and necessary, local ordinances mandating the use and installation of these methods shall be updated (*Policies 11.1.1, 11.1.3, 11.1.4*).
- Representatives of the City of Redondo Beach Fire Department and/or City of Redondo Beach Environmental and Utilities Commission shall continue to work, as necessary, with the appropriate representatives of the State Department of Health Services and the Los Angeles County Department of Health Services, to ensure coordination of local and regional efforts and enforcement of all appropriate regulations relative to toxic wastes and materials generation, use, storage, transport, and disposal in the City of Redondo Beach (*Policy 11.1.1, 11.1.3*).
- The City of Redondo Beach Fire Department shall, as required by State law, based on accepted industry standards, develop, maintain, and periodically update a "list" of competent local and regional toxic and hazardous wastes and materials transportation and disposal operators and services. (*Policy 11.1.5*).

- Ensure, through critical review and regular rehearsal of ongoing City of Redondo Beach Fire Department efforts, that local toxic and hazardous waste and materials emergency programs and response efforts remain adequate and at a state of readiness (*Policy 11.1.6*).
- In addition to ongoing local efforts lead by the City of Redondo Beach Fire Department, ensure that the City of Redondo Beach continues to participate in the regional Mutual Aid Network, to facilitate and ensure the highest possible availability of resources and greatest degree of coordination and effectiveness in responding to toxic and hazardous waste and materials emergencies in the City of Redondo Beach and the surrounding region (*Policy 11.1.6*).
- City of Redondo Beach Fire Department staff, as resources permit, shall provide written materials for public distribution and/or visual materials explaining the issues and importance of local emergency response planning and procedures, and alerting the local resident and business population to the appropriate roles and actions of the citizenry in these situations. This effort may include the videotaping of a session to be played on a periodic basis on the local government access cable television system, as overall program scheduling allows (*Policy 11.1.7*).
- City of Redondo Beach Department of Public Works staff shall, on a regular basis, and in cooperation with California Water Service Company, West Basin Municipal Water District, and Metropolitan Water District officials, continue to monitor local water quality conditions. When potential contamination sources or areas are identified and arise, appropriate and effective mitigation shall be implemented to protect the public, in accordance with State law. In such cases, City staff shall work with California Water Service Company representatives to notify residents and property owners (*Policy 11.1.8, 11.1.9*).
- City of Redondo Beach Department of Public Works staff, within one year of adoption of the General Plan, and in cooperation with California Water Service Company, West Basin Municipal Water District, and Metropolitan Water District officials, shall formally review the locations and quality of all local water supply, storage, and transmission sources. Locations of these facilities and their corresponding risk potential in relation to known local toxic and hazardous wastes and materials sources shall be established and evaluated. The City shall cooperate with other agencies and the private sector, as feasible, in the process of protecting the public health and welfare where existing sources of water supply and storage are impacted by toxic or hazardous materials (*Policy 11.1.9, 11.1.10*).

- As allowed by law, develop and adopt formal local ordinances or policies and encourage prevention programs and permit financial (i.e., local tax credits) or other specific incentives to enhance voluntary clean ups and effective management of local toxic and hazardous wastes and materials by private property owners, business people, and the public-at-large (*Policy 11.1.11*).
- The City of Redondo Beach Fire Department shall formally participate in and ensure that appropriate programs and policies regulating and guiding the collection and disposal of household hazardous wastes from local residences are contained within the local Solid Waste Management Plan (as mandated by State law) [see the Solid Waste Management and Recycling Section of the General Plan for more detail on this subject] (*Policy 11.1.12*).

SECTION 4.5

Fire Hazards

4.5 FIRE HAZARDS

California State Law, specifically Assembly Bill 890, Chapter 1255 and California Government Code Section 65302(1), establishes and requires that each city or county prepare and adopt a Safety Element as follows:

A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically-induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides...; subsidence and other geologic hazards known to the legislative body; flooding; and wild land and urban fires. The safety element shall include mapping of known seismic and other geologic hazards. It shall also address evacuation routes, peakload water supply requirements and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

The various geologic and seismic hazards, and their potential impacts, have been inventoried, described, and analyzed (including specific goals, objectives, policies, and implementation programs) within the Geologic/Seismic Hazards Section of this document, representing the “first half” of the Safety Element (Section 4.1).

This portion of the document inventories, describes, and analyses local fire hazards and their potential impacts (including specific goals, objectives, policies, and implementation programs), and represents the “second half” of the Safety Element. The information contained within this section replaces and updates the existing Safety Element of the 1964 Comprehensive General Plan, most recently updated in September of 1975. A number of valid and appropriate components of the original Safety Element have been retained (updated for the passage of time) in this document.

4.5.1 Existing Local Fire Protection/Prevention Services

Local fire protection and prevention services (and paramedic services) within the community are provided by the City of Redondo Beach Fire Department. The Fire Department maintains three facilities in the City, including two fire stations and a fire boat (Figure 66). Fire Station #1 is located at 401 South Broadway (at the southwestern intersection of Pearl Street and Broadway) in South Redondo Beach; Fire Station #2 is located at 2400 Grant Avenue (at the southeastern intersection of Grant Avenue and Mackay Lane) in North Redondo Beach; and the fire boat is berthed adjacent to the Harbor Master's office (at the western terminus of Mole B) in South Redondo Beach.

Pacific Ocean

CITY OF
HERMOSA BEACH

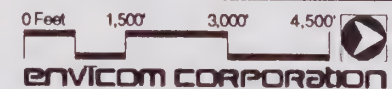
CITY OF
MANHATTAN BEACH

CITY OF TORRANCE

CITY OF LAWDALE

LEGEND

- 1 Fire Station #1 (401 South Broadway)
- 2 Fire Station #2 (2400 Grant Avenue)
- 3 Fire Boat (West End of Mole B)
- 4 South Bay Hospital (514 North Prospect Avenue)
- 5 Emergency Operations Center (Below City Hall 415 Diamond Street)



EXISTING LOCAL FIRE, EMERGENCY MEDICAL,
AND EMERGENCY OPERATIONS FACILITIES

FIGURE
66

Fire Department Organization

The Fire Department is organized into six different functional divisions, including 1) administration; 2) fire prevention; 3) fire protection [or suppression]; 4) training; 5) public education; and 6) hazardous materials. Call dispatching responsibilities are handled through the integrated local police/fire dispatch center, overseen by the City of Redondo Beach Police Department. The Fire Department has also recently been assigned with the responsibility of overseeing local disaster preparedness and emergency operations activities.

Fire Department Staffing

The City of Redondo Beach Fire Department utilizes a constant manning/qualified relief staff system, using three 24-hour shifts that work a 56-hour work week. A total of 19 different personnel are on duty at all times under normal operating conditions, eleven at Fire Station #1 (including three paramedics), and nine at Fire Station #2 (including two paramedics). Under normal operating conditions, staffing includes a total of 1 Battalion Chief; 3 Captains; 5 Fire Engineers; 5 Fire Paramedics; and 5 Firefighters.

Fire Department Equipment/Infrastructure

In terms of fire equipment, the Fire Department operates four pumpers (one of which includes a 1,000 gallons per minute stream, elevated 50 foot telesquirt); one 100 foot high aerial ladder truck; two paramedic vehicles; and the previously-mentioned fire boat. Specialized equipment owned and operated by the department includes a light/air unit and a foam truck.

The local fire system includes a total of 929 operating fire hydrants distributed along the community's public rights-of-way and within the sites of larger projects and private land areas. Services are called and dispatched through the local telephone emergency system (dialing 911); because of the increasingly high incidence of false alarms in the past, all fire alarm boxes in the City have been removed.

Estimated Local Fire Department Response Times

The City of Redondo Beach Fire Department provides estimated emergency response times (in minutes), based on an analysis of actual calls and responses, for the time that it takes for fire equipment and crews to reach any site in the City, once the call is received at the fire stations. Through analysis of fire department records, it is estimated that current local response times total five minutes or less for approximately 82 percent of fire calls and approximately 90 percent of emergency medical calls. Average response times are currently estimated at approximately 4.25 minutes for fire calls and approximately 4.00 minutes for emergency medical calls.

It should be noted that response times are somewhat greater for the far northern portions of the City. A study of response times north and south of Robinson Street generated the following results:

South of Robinson Street

Structural Response	(3 to 4 minutes)
Rescue Response	(3 minutes)
Ladder Company Response	(5 minutes)

North of Robinson Street

Structural Response	(6 minutes)
Rescue Response	(5 minutes)
Ladder Company Response	(7 to 8 minutes)

Supplemental Fire Department Responsibilities

The Fire Department has been providing paramedic services in the City of Redondo Beach since 1971. The paramedic base station is located at South Bay Hospital, located at the northeastern intersection of North Prospect Avenue and Diamond Street in South Redondo Beach (**Figure 66**). Paramedic crews are located in the local fire stations; local ambulance transportation is provided by the McCormick Ambulance Company.

The Fire Department is also responsible for local hazardous materials responses and inspections. The department employs an environmental scientist as a hazardous materials specialist to coordinate the City's household hazardous waste program, manages the local hazardous disclosure system; and conducts local business and industrial safety inspections.

The City of Redondo Beach Fire Department is also part of a long-standing regional fire protection agreement/pact [known as the Mutual Aid Network] (nearby cities participating in this network include the City of El Segundo, City of Gardena, City of Hawthorne, City of Hermosa Beach, City of Inglewood, City of Manhattan Beach, and City of Torrance. This agreement/pact provides for programmed regional responses for supplemental fire protection services, equipment, and personnel in special situations.

4.5.2 Existing/Historical Local Fire Demands

During calendar year 1990, the City of Redondo Beach Fire Department responded to 4,439 calls (generating a ratio of 0.0738 calls per capita per year). These 4,439 total calls included 3,640 active call (82.0 percent of all calls) and 799 false alarms (18.0 percent of all calls). Of the 3,640 active calls, 3,009 were rescues (67.8 percent of all

active calls); 588 were miscellaneous calls and fires (13.3 percent of all active calls); and 43 were structure fires (1.2 percent of all active calls). Of the 799 total false alarms, 536 were fires (67.1 percent of all false alarms, and 263 were rescues (32.9 percent of all false alarms).

An examination of historic fire response data provides the following information: the 4,439 total fire responses in 1990 were approximately 1.4 percent less than the 4,503 calls that were received in calendar year 1989. A slightly higher percentage of all calls in 1989 were active calls (83.7 percent in 1989 to 82.0 percent in 1990) and a slightly lower percentage of all calls in 1989 were false alarms (16.3 percent in 1989 to 18.0 percent in 1990). A total of 62.5 percent of all active calls in 1989 were rescues, down slightly compared to 67.8 percent in 1990; a total of 19.7 percent of all active calls in 1989 were miscellaneous calls and fires, up slightly compared to 13.3 percent in 1990; and a total of 1.4 percent of all active calls in 1989 were structure fires, up slightly compared to 1.2 percent in 1990. A breakdown of all local fire department responses from 1981 to 1990 is provided (Table 54)

4.5.3 Local Fire Hazard Analysis

Fire components of Safety Elements historically focus on the risk and prevention of urban wildfire hazards. These are large, extremely dangerous and difficult to control fires in areas of dense brush or vegetation.

Because of the highly urbanized and built-out nature of the City of Redondo Beach, the risk of such wildfires is extremely negligible (the only large, undeveloped areas in the City with any measurable risk of fire hazard are the Wylie/Steinhart Sump, located at the southwestern intersection of Ford Avenue and Artesia Boulevard in North Redondo Beach, and Hopkins Wilderness Park, located at the northeastern intersection of Knob Hill Avenue and North Prospect Avenue in South Redondo Beach).

For this reason, this document focuses on the risk and prevention of more traditional urban fires and fire-related hazards, which, for analysis purposes, have been broken into six specific categories or types, including:

1) Fire Hazardous Buildings

These buildings are those having open stairwells, substandard electrical wiring, or faulty heating systems. Upon ignition, fire spreads rapidly through these buildings. A common example of a fire hazardous building is the older, multi-storied hotel converted to permanent residential use, usually for the poor or elderly. These older buildings are also used by some commercial or industrial enterprises. There are not high numbers or major clusters of this type of building in the community, but several individual buildings do exist that fit this description.

TABLE 54

City of Redondo Beach Historic Local Fire Responses (1981-1990)

			Breakdown of Total Responses		Breakdown of Active Calls			Breakdown of False Alarms	
Year	Total Responses	Change from Previous Year	Active Calls	False Alarms	Rescues	Misc. Calls	Structure Fires	Fire False Alarms	Rescue False Alarms
1990	4,439	-64	3,640 (82.0%)	799 (18.0%)	3,009 (82.7%)	588 (16.2%)	43 (1.2%)	536 (67.1%)	263 (32.9%)
1989	4,503	-264	3,768 (83.7%)	735 (16.3%)	2,818 (74.8%)	887 (23.5%)	63 (1.7%)	619 (84.2%)	116 (15.8%)
1988	4,767	+268	3,916 (82.1%)	851 (17.9%)	3,123 (79.7%)	710 (18.1%)	83 (2.1%)	711 (83.6%)	140 (16.4%)
1987	4,499	-368	3,706 (82.4%)	793 (17.6%)	2,941 (79.4%)	713 (19.2%)	52 (1.4%)	593 (74.8%)	200 (25.2%)
1986	4,885	+390	4,263 (87.3%)	622 (12.7%)	3,312 (77.7%)	886 (20.8%)	65 (1.5%)	514 (82.6%)	108 (17.4%)
1985	4,495	-32	3,962 (88.1%)	543 (12.1%)	3,056 (77.1%)	834 (21.0%)	72 (1.8%)	436 (80.3%)	107 (19.7%)
1984	4,527	+54	3,978 (87.9%)	549 (12.1%)	2,976 (74.8%)	930 (23.4%)	72 (1.8%)	455 (82.9%)	94 (17.1%)
1983	4,473	-267	3,859 (86.3%)	614 (13.7%)	2,896 (75.0%)	884 (22.9%)	79 (2.0%)	528 (86.0%)	86 (14.0%)
1982	4,740	-240	4,146 (87.5%)	594 (12.5%)	3,048 (73.5%)	999 (24.1%)	99 (2.4%)	532 (89.6%)	62 (10.4%)
1981	4,980	n/a	4,352 (87.4%)	629 (12.6%)	3,334 (76.6%)	911 (20.9%)	107 (2.5%)	524 (83.3%)	105 (16.7%)

Source: City of Redondo Beach Fire Department (Fire Marshal).

2) Residential Buildings

Residential land uses form a major portion of the structures in the community. Fires occur more frequently in private homes from a variety of causes, human carelessness being chief among them. More lives are lost in residential fires than in any other type of fire. One particularly dangerous hazard in residential fires is the use of untreated wood shingles in roof construction. Windy conditions can spread the fire to a large number of other houses where this type of roof is common.

3) Multistory Buildings

Larger, multi-story buildings (i.e., over four or five stories) pose particularly unique and difficult fire control problems. The large number of occupants in these structures and their dependence on internal support systems such as water pressure systems, ventilation systems, and elevator systems, increase the potential for disaster. Adequate response to high-rise fires requires special equipment such as helicopters, aerial ladders, smoke ejectors, and a fail safe firefighting communications system other than portable radios.

4) Hospitals and Medical Facilities

Medical facilities (hospitals, nursing/convalescent homes, etc.) present critical fire control problems. Damage to sophisticated medical equipment by fire threatens the lives of existing and future patients. Individuals who are mentally or physically debilitated cannot react during crisis in a way that would ensure minimum safety hazards. In times of emergency, ailments are aggravated by stress; medical staffs alone are usually inadequate to provide enough aid and guidance.

5) Indoor Public Assembly Facilities

Public assembly facilities are defined as those in which large numbers of people congregate in generally unfamiliar surroundings. They include schools, theaters, churches, temples, and a variety of recreational facilities. There are a number of these buildings in the community, including local elementary schools. Gatherings of large numbers of people in these buildings create conditions conducive to mass panic in a crisis which only worsens and increases the casualties. Administering medical aid is made more difficult in these situations as well.

6) Industrial Fire Hazards

Several industries of varying intensities are located within the community; the largest and most obvious is the TRW Space Park facility located in far North Redondo Beach.

Many of these facilities engage in the processing or utilization of various flammable petroleum products, caustic chemical compounds, and other exotic substances, all of which are potential threats to human safety. Prevention and control of fire hazards in these facilities are particularly difficult and important.

Many specific facilities within the six general categories have been identified as special fire target areas due to the nature of the activities conducted within them. These facilities receive particular attention from the City's fire prevention and response departments, due to at one or more of the following factors:

- Providing for high public occupancy loads
- Having particular importance in fire or other emergencies
- Containing or handling highly volatile materials

In addition to these "special" facilities, the numerous oil and gas pipelines which traverse the community represent a potential fire hazard, in the event a line should fail. Information regarding the location and operation of these facilities is of vital importance to the Fire Department if it is to be adequately prepared to combat the hazards associated with such facilities.

4.5.4 Local Fire Hazard Rating

The overall risk of fire hazard in local communities is rated, primarily to establish homeowner insurance rates, by the Commercial Risk Services Division of the Insurance Service Office (ISO), an independent, non-profit company which provides information and related services to the insurance industry.

This body rates two aspects of a community's fire system: a) the local fire department's conditions and operation; and b) the local water system's conditions and operation. These two aspects are then combined, to establish an overall community rating. The existing rating system utilizes an ascending numerical scale, ranging from Class 1 (the best) to Class 10 (the worst).

The latest available rating for the City of Redondo Beach is for 1988. At that time, the water department condition and operation aspect of the City of Redondo Beach (the California Water Service Company) was rated as a Class 1; the fire department condition and operation aspect of the City of Redondo Beach (the City of Redondo

Beach Fire Department) was rated as a Class 3; the overall community rating is a Class 2, generally considered excellent for communities of comparable size and character.

4.5.5 Fire Hazard Reduction

A. Preventative Fire Control

Fire hazards can be minimized through two primary methods. The first method involves the reduction of actual fire starts. Preventative fire control, as it is termed, emphasizes maximum safety in the design, maintenance, and use of structures. Implementation of these proper safety measures can effectively remove the possibility of fire by preventing it from starting in the first place.

1) The following state and local codes are applicable to fire prevention:

a) Uniform Fire Code (UFC)

This code is intended to set forth the minimum provisions necessary to safeguard life, health, property and public welfare by regulating the storage, use and handling of dangerous and hazardous materials, substances, devices and processes, to maintain buildings and certain equipment, and to maintain adequate egress. The applicable provisions of this code are used and enforced by the City of Redondo Beach Building and Safety Department and City of Redondo Beach Fire Department.

b) Uniform Building Code (UBC)

This code is dedicated to the development of higher quality building construction methods and standards and the assurance of greater safety to the public by uniformity in building laws. The code is founded on broad based performance principles that make possible the use of new materials and new construction systems. The applicable provisions of this code are also used and enforced by the City of Redondo Beach Building and Safety Department and City of Redondo Beach Fire Department.

c) California Administrative Code; Title 19 (State Fire Code):

This code provides a wide array of standards, guidelines, and regulations for fire prevention and fire safety relative to the contents and assembly of various products and operation of certain facilities and activities, including: General fire and panic safety standards, Canvas tents and structures of similar flammable material, Fire extinguishers, Fire alarm systems and devices, Flammability standards for children's clothing, Fireworks, Wearing apparel (minimum fire safety standards), Flame

retardant chemicals, fabrics and application concerns, Standardization of threaded fittings on fire equipment, Explosives, Transportation of flammable liquids in cargo tanks on highways, Portable internal combustion engine-driven pumps.

d) Redondo Beach Codes and Ordinances:

The local municipal code contains a number of sections, ordinances, or policies related to fire prevention, fire protection, and fire safety. The primary ordinances and policies include:

-Fire Alarm Systems (Sec. 3-4.106, Article 1, Chapter 3, Title 10), requiring that all buildings (including residential, commercial, or industrial) include appropriate and adequate smoke and heat detection (alarm) mechanisms or systems. This requirement is enforced and regulated through the local Fire Department's participation in the design review and plan check process of new construction and renovations and through the inspection of existing facilities.

-Fire Extinguishing Systems (Sec. 9-1.05, Chapter 1, Title 9), requiring that all new structures (including residential, commercial, and industrial) [except for commercial structures totaling less than 500 square feet] include an adequate modern automatic sprinkler system for fire protection.

In addition to being required in all new structures, any commercial or industrial structural renovation exceeding 50 percent of the existing floor area and any residential addition exceeding either 50 percent of the existing floor area or 1,000 square feet, must be accompanied by the installation of an adequate modern sprinkler system throughout the entire structure. This requirement is enforced and regulated through the local Fire Department's participation in the design review and plan check process of new construction and renovations and through the inspection of existing facilities.

-Oil well and oil storage regulations (Chapter 11, Title 4), setting forth specific standards and regulations and for the construction, operation, and maintenance of oil well and oil storage facilities throughout the community. This requirement is also monitored and enforced through the local Fire Department's participation in the design review process and through their inspection of existing facilities.

2) Supplemental Measures for Safeguarding Life and Property

a) Adequate Exit Facilities

Although there is gradual acceptance of the importance of adequate exit facilities, fire casualty statistics show that there are still many buildings, particularly residential occupancies, where exit facilities are inadequate. If there has been proper planning for the prompt use of the avenues of escape in the event of emergency, and if these avenues of escape are maintained readily available, then the danger of loss of life is largely eliminated. An exception should be noted in the case of especially hazardous occupancies where flash fires or explosions may cause casualties, no matter how adequate the egress facilities.

b) Automatic Sprinkler Protection

Automatic sprinkler protection is a particularly important factor in safeguarding life from fire. Records of the National Fire Protection Association show that the loss of life by fire in buildings equipped with automatic sprinklers has been almost negligible. The few deaths that have occurred have been under unusual circumstances where the sprinkler system was shut off for some reason, where the fire was confined to clothing and did not generate enough heat to fuse sprinklers, or where the fatal burns were due to flash fires or explosions.

3) Fire-Resistant Construction

Fire-resistant or so called fireproof construction is an important life-safety measure. It should be noted, however, that severe fires may occur within the contents of fire-resistive buildings, and that highly combustible decorations and interior finish materials may more than off-set the value of noncombustible structural materials.

4) Enclosure Of Vertical Openings

Measures for restricting the spread of fire in buildings are major elements in life safety. Most important is the enclosure of stairways, elevator shafts, and other vertical openings through floors. Thousands of lives have been lost due to the rapid upward spread of fire and smoke through unprotected vertical openings.

5) Education/Awareness About Fire Situations

Inadequate planning for a fire emergency is frequently responsible for fire deaths. A substantial percentage of the lives lost annually in dwelling fires

occurs because families have not taken the time to be sure that each member knows how to escape in case of fire. Escape plans include locating alternative escape routes, arranging for removal of infants and incapacitated persons, training in how to call the fire department, instructing baby sitters, and holding family fire drills.

B. Response Fire Control

The second method of fire hazard reduction emphasizes the effective response aspect of fire control. Effective response can be assisted by providing necessary access and water in adequate amounts and pressures. The following matters are relevant to effective response fire control:

1) Water Supply

The most reliable type of water system is one in which water is collected in impounding reservoirs and fed to the area by gravity flow. It is reliable because the need for and chance of malfunction of pumps is eliminated. Such a system, however, is possible in only a few geographic areas because of the terrain. Most areas take their water from lower lying areas (rivers, lakes, or wells) and pump it to higher elevated areas (through pressurized water mains).

This type of system is also considered to be highly reliable if sufficient storage in reservoirs is provided to be available in case of failure of any essential part of the water system, and if pumps and piping are provided in duplicate (see the Utilities Section of this document for additional information and detail regarding the local water system).

This is the type of water supply system existing in the City of Redondo Beach, which includes cross-connecting mains organized in a grid system, supplied by a combination of storage tanks, wells, and a pressurized pumping system.

The amount of water required by an area includes three major types: 1) Domestic use; 2) Industrial use; and 3) Fire service use (usually less than 1% of the total use). When items a and b are added together, the average national daily consumption is approximately 140 gallons per capita. The maximum daily consumption (in summer) is approximately 210 gallons per person. In order to be considered effective, the local water system should be able to provide all the water required for maximum daily consumption in addition to the required fire flow. This factor necessitates that the storage reservoirs be large enough to store this amount of water and the water mains be large enough to deliver it effectively.

The local water main system (operated and maintained by the California Water Service Company) is divided into several geographic zones. Each zone is separated from flowing into its neighboring zones by closed gate valves. Ideally, each zone should be supplied by its own reservoir tank, although in some cases, one reservoir tank may supply more than one zone.

Since the elevation of one storage reservoir may be different than the other reservoirs, the pressure in the mains which it supplies may be different than the pressure in the mains supplied by the other reservoirs.

In case of a large fire in a zone where the pressure is too low, the water company can improve the water supply in that zone by opening certain gate valves, introducing water from a neighboring pressure zone.

2) Paramedic Program

The Redondo Beach Fire Department was one of the first cities to maintain and operate a paramedic program. This program provides immediate emergency medical aid to the citizens of the City of Redondo Beach. The program is also assumes a major role in cases of major disaster situations in reducing the loss of life and treating injuries.

3) Response Times

As has been previously detailed, the Redondo Beach Fire Department has excellent response times throughout the entire community. This factor is a significant advantage in the ability of the Department to adequately and successfully response to fires and fire-related emergencies.

4.5.6 General Local Emergency Preparedness

A. Emergency Operations Plan

Most of the information previously outlined and presented relative to fire hazards deals with preventative measures, or those measures which should be taken into account prior to a fire or other disaster occurring. There are certain guidelines which should be set up and adhered to at the time of a fire or fire-related emergency. This would also include post emergency situations.

The City of Redondo Beach has completed and maintains a local Emergency Operations Plan to assist in saving lives and protecting public health and welfare in emergency situations. The plan provides for the readiness, mobilization, coordination and employment of important public and private resources to meet essential needs. The objectives are to save lives and property damage, to protect and assist the public in the emergency, and to facilitate recovery after the emergency.

This Emergency Operations Plan applies to many varied emergency situations, ranging from major accidents and natural disasters to a hostile nuclear attack. It provides for the alignment, coordination and direction of existing municipal agencies, supplemented by community and other resources when necessary. The plan is necessarily broad, providing the framework and flexibility for varied actions in a wide range of emergency situations. It does not apply to day-to-day operations, support or assistance in relatively minor emergencies, or conditions resulting from a labor controversy.

The Emergency Operations Plan establishes and puts into practice special relationships between the local government, community, and military. The plan prescribes the general organization, readiness and operational functions and task assignments of these various entities; it also includes guidance for officials and citizens of the community in these situations. When governmental and local resources clearly are inadequate, military assistance may be available to supplement and support these efforts. In grave situations, if civil government were unable to function, the governor or president could impose partial or full martial law; civil authority and the public then are subject to military rule and controls temporarily, until civil government can resume its normal functions.

B. Emergency Operations Center (EOC)

In order to carry out functions during an emergency situation, a Civil Defense and Disaster Organization has been set up. It includes all officers and employees of the City of Redondo Beach, together with registered volunteers and auxiliaries, and other persons who have been trained by proper authorities for emergency service. The emergency organization conforms in general to that of higher echelons, and reflects the performance of certain services by the County of Los Angeles.

During an emergency, the Civil Defense and Disaster Organization will be housed in the Emergency Operations Center, located below ground at the Redondo Beach Civic Center (**Figure 66**). The Emergency Operations Center (EOC) was designed and built to provide a protected, reliable and flexible communications system for rapid transmission of information, instruction and requests in emergencies.

The city has developed an effective municipal radio communications system, based primarily on centralized local government nets and common frequencies or links with other agencies. The city Emergency Operations Center will provide protected and improved facilities for emergency communications both intra- and inter-city. The City of Redondo Beach Fire Department has recently been given the responsibility for overseeing and managing the local emergency operations plan and emergency operations center during an emergency situation.

4.5.7 Summary of Conclusions

- The risk from uncontrolled urban fire within the City of Redondo Beach poses no significant threat due to good access to all areas of the community, a lack of large vacant areas, an adequate water supply, a modern inventory of fire fighting equipment, and the existence and maintenance of thorough local fire prevention and protection requirements.
- The City's existing facilities and practices for fire prevention and fire fighting are considered above average for cities of comparable population sizes and characteristics, according to the Commercial Risk Services Division of the Insurance Service Office, an independent, non-profit wing of the insurance industry charged with conducting and maintaining this rating system.
- Modern state and local building safety and fire safety codes and ordinances are thoroughly enforced by the City of Redondo Beach Building and Safety Department and Fire Department.
- The existing City of Redondo Beach Emergency Operations Plan establishes the community's contingency plans for responding to all types of major disasters in an effort to provide for the safety of life, public health and property.
- The City's existing underground disaster-resistant Emergency Operations Center provides assurance that coordination and communication facilities will continue to function in all emergency situations.

4.5.8 Goals, Objectives, and Policies

<i>Goal</i>	<i>It shall be the goal of the City of Redondo Beach to:</i>
12A	Reduce the level of risk of structures and people in the City of Redondo Beach from property damage, injury, and loss of life due to fire and fire-related emergencies.
<i>Issue</i>	<u>GENERAL FIRE PREVENTION AND FIRE PROTECTION</u>
<i>Objective</i>	<i>It shall be the objective of the City of Redondo Beach to:</i>
12.1	Endeavor to implement and monitor all possible and necessary fire prevention, fire protection, and emergency preparedness measures to adequately protect residents, employees, visitors, and structures from the risk of and impacts due to fire and fire-related emergencies.

- Policies* *It shall be the policy of the City of Redondo Beach to:*
- 12.1.1 Continue to provide and strive to upgrade an adequate, modern system of fire protection to residents, employees, and visitors to the City of Redondo Beach.
- 12.1.2 Continue to cooperate with fire, paramedic, and emergency operations personnel in adjacent municipalities and the County of Los Angeles to assist each other in carrying out the existing regional fire protection agreement.
- 12.1.3 Assess the potential impacts of future increases in development density and related circulation impacts and patterns on local fire prevention and protection efforts and emergency response times; ensuring, through the design review and plan check process, that such new development will not result in a reduction of fire protection services below acceptable levels.
- 12.1.4 Continue to support public and private programs assisting in the further reduction of potential urban fires, including: weed and brush removal and installation and maintenance of fire retardant plantings.
- 12.1.5 Continue to monitor, maintain, and upgrade the condition and operation of the local water system and supply, the distribution and operation of local fire hydrants, fire alarm boxes, and fire hose cabinets on the Municipal Pier.

Issue **CITIZEN AWARENESS POLICIES**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 12.2 Attempt to increase and maintain general public awareness regarding potential fire hazards and fire prevention/protection efforts, and create a greater understanding and appreciation of the importance of safety planning and emergency operations.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 12.2.1 Initiate and conduct educational programs in local primary schools using displays and demonstrations which will expose younger children to the nature and strength of fire. Such programs would tend to replace their natural curiosity with a sense of respect. Proactive parental cooperation and assistance in overall fire education programs should be encouraged.

- 12.2.2 Support and sponsor exhibits and presentations in secondary schools which demonstrate the more involved aspects of fire hazards and fire dynamics, (including major contributing factors to fire hazard and the relationship of fire to the natural ecology). Proactive parental cooperation and assistance in overall fire education programs should be encouraged.
- 12.2.3 Support community outreach programs that attract and train volunteers to assist fire, and civil defense personnel to perform effectively during and after a local disaster or emergency.
- 12.2.4 Develop a public information release and program to expose and familiarize the citizens of the City of Redondo Beach with the Safety Element of the General Plan.
- 12.2.5 Encourage local school districts and public agencies related to or involved with the aged, handicapped, and susceptible industries to develop educational and informational programs relative to public safety awareness.

Issue **STRUCTURAL SAFETY POLICIES**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 12.3 Insure that all high occupancy structures, critical facilities, other vital emergency facilities, and local residential, commercial, and industrial structures are designed and constructed to minimize the level of risk of structural failure in a fire or emergency situation.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 12.3.1 Continue to require that all developments be submitted for governmental review according to the Planning and Land Use Section of the California Government Code.
- 12.3.2 Enforce all structural and fire safety regulations of the Uniform Building Code, Uniform Fire Code, State Fire Code and appropriate provisions of the Redondo Beach Municipal Code relating to sprinkler systems, smoke detector systems, and fire alarm systems.
- 12.3.3 Continuously re-evaluate and study the need to upgrade the specific provisions of the Redondo Beach Municipal Code relating to sprinkler systems, smoke detector systems, heat detector systems, and fire alarm systems.

- 12.3.4 Continue the existing program and practice of inspecting local residential, commercial, and industrial structures for compliance with state and local fire laws, regulations, ordinances, and practices.

Issue **EMERGENCY OPERATION POLICIES**

Objective *It shall be the objective of the City of Redondo Beach to:*

- 12.4 Ensure that its Emergency Operation Plan and Emergency Operations Center are at all times in a state of updated readiness.

Policies *It shall be the policy of the City of Redondo Beach to:*

- 12.4.1 Update the Emergency Operations Plan every two years to keep abreast of new development in fire hazard, fire safety, and emergency conditions and procedures.
- 12.4.2 Continue to update and make clear to the various local governmental departments their individual responsibilities in the case of an emergency.
- 12.4.3 Encourage local citizens to become aware of and participate in the Emergency Operations Plan.
- 12.4.4 Prepare Public Safety disaster information release programs for use in emergencies.
- 12.4.5 Ensure that the local Emergency Operations Center is in a constant state of readiness.

4.5.9 Implementation Programs

The following presents the respective programs which shall be carried out by the City of Redondo Beach (or the indicated designee) to implement the preceding goals, objectives, and policies of the Fire Hazards Section. Each implementation program is followed by a numerical reference (in parentheses) indicating the policy or policies which it is intended to help implement. Notwithstanding the language in specific implementation measures, action by the City is subject to the availability of funding and staff.

- Provide full-time local fire prevention, fire protection, and emergency medical (paramedic) services through the City of Redondo Beach Fire Department. Continue to conduct a comprehensive review of the provision of such services (in concert with the existing operational and budgetary review process put in place by the City of Redondo Beach). Institute changes

and new procedures, as feasible, to assure the achievement of the highest level of service and safety in the community (*Policy 12.1.1*).

- Continue to participate in the regional Mutual Aid Network fire protection and emergency medical and operation agreement/pact. Continue to meet formally with adjacent local fire departments and the County of Los Angeles Fire Department to discuss, review, and coordinate regional fire prevention, fire protection, and emergency medical and operations services, and ensure their continued effective operation and performance (*Policy 12.1.2*).
- Continue to formally review and comment upon discretionary development requests submitted to the City Community Development Department to ensure that appropriate fire safety elements are included within site designs, building designs, and building/planting materials (*Policy 12.1.3*).
- City of Redondo Beach Fire Department staff shall meet, on at least an annual basis, with City Community Development Department and Department of Public Works staffs to review and discuss City-wide development and circulation patterns and projects, in order to determine the impacts of these actions on local fire prevention, fire protection, and emergency medical services. Changes suggested to such patterns and projects deemed to be necessary to improve local fire and emergency medical services and deemed to be financially and practically feasible shall be implemented (*Policy 12.1.3*).
- The City of Redondo Beach Fire Department shall work with the State Department of Transportation (CALTRANS) and the City of Redondo Beach Department of Public Works staffs to provide input and monitor weed abatement and brush trimming/clearing efforts in and around public rights of way and public properties to further reduce the potential for fire (*Policy 12.1.4*).
- City of Redondo Beach Fire Department staff shall meet, on at least an annual basis, with California Water Service Company (CWSC) and City of Redondo Beach Department of Public Works staffs to review, discuss, and critique the conditions and operation of the local water system and supply (including fire hydrants). Changes and upgrades suggested to the system and supply deemed to be necessary to improve local fire and emergency medical services and deemed to be financially and practically feasible shall be implemented (*Policy 12.1.5*).
- Establish and maintain a formal program of demonstrations and educational aids (through speaking to schools groups, field trips to fire facilities, etc.) in both the primary and secondary school systems to expose and explain fire dynamics, fire hazards, fire safety, and emergency operations to the school-aged populations. Parental involvement in or formal acknowledgement of

these events should be an integral aspect of these programs (*Policy 12.2.1, 12.2.2, 12.4.3, 12.4.4*).

- City of Redondo Beach Fire Department staff should conduct a formal local seminar and mini-training session, on at least an annual basis, to expose and familiarize the local resident population to the Safety Element of the General Plan and train volunteers to assist fire and civil defense personnel during and after a local disaster or emergency. This program should include the videotaping of a session to be played on a regular basis on the local government access cable television system, as overall program scheduling allows; written material or pamphlets should also be created for public distribution (*Policy 12.2.3, 12.2.4, 12.4.3, 12.4.4*).
- City of Redondo Beach Fire Department staff should meet with management of the local school districts and public agencies providing social services to the young, the aged, and the physically-challenged, to develop and provide programs (similar to those listed above for the overall population), to increase and improve safety, fire, and emergency operations awareness in these special populations of the community (*Policy 12.2.5, 12.4.3, 12.4.4*).
- Ensure, through the review and comment process outlined above, that discretionary development proposals submitted to and approved by the City of Redondo Beach comply with all applicable structural and fire safety regulations and requirements of the Redondo Beach Municipal Code, the Uniform Building Code, the Uniform Fire Code, and the State Fire Code (*Policy 12.3.1, 12.3.2*).
- The City of Redondo Beach Fire Department staff shall, on at least an annual basis, review the provisions of the City of Redondo Beach Municipal Code relative to fire prevention and fire protection system requirements. Changes and upgrades to the requirements shall be suggested and implemented, as necessary to improve local fire safety, and as financially practicable and feasible (*Policy 12.3.3*).
- The City of Redondo Beach Fire Department shall continue their program of local structural inspections, as staffing and budgetary conditions allow, to ensure compliance with state and local fire laws, regulations, ordinances, and practices, and to improve overall local fire safety conditions (*Policy 12.3.4*).
- The City of Redondo Beach Fire Department staff shall, on at least a biannual basis, review the provisions of the City of Redondo Beach Emergency Operations Plan. Changes and upgrades to the Plan shall be suggested and implemented, as necessary to improve local emergency response and operations, and as financially practicable and feasible. One major component of this review shall include formal meetings with all local government

departments involved in emergency response and operations, to establish and update the roles and responsibilities of these department in emergency response and operations activities, and to better inform staff-level employees of these practices (*Policy 12.4.1, 12.4.2*).

- The City of Redondo Beach Fire Department shall continue their existing practice of continually reviewing the physical and operational conditions of the Emergency Operations Center and rehearsing emergency drills involving the Center, to ensure that the facility is in a constant state of readiness and preparedness (*Policy 12.4.5*).

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